Work Plan
For Remedial Investigation

Goldsboro Milling Company's Mill #1 Property

Goldsboro, Wayne County, North Carolina

September 24, 2013

Terracon Project No. 72137029

Prepared On Behalf of:
Goldsboro Milling Company
Goldsboro, North Carolina

Prepared by:
Terracon Consultants, Inc.
Winterville, North Carolina

September 24, 2013

Mr. Kim T. Caulk
NCDENR – Division of Waste Management
Inactive Hazardous Sites Branch – REC Program
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Re: Work Plan for Remedial Investigation
Goldsboro Milling Company's Mill #1 Property
938 Millers Chapel Road
Goldsboro, Wayne County, North Carolina
Site ID No. NONCD0002891
Terracon Project No. 72137029

Dear Mr. Caulk:

Terracon Consultants, Inc. (Terracon), on behalf of Goldsboro Milling Company, is pleased to submit this Work Plan for Remedial Investigation for the above referenced property. The Work Plan was developed in general accordance with North Carolina Department of Environment and Natural Resources (NCDENR), Superfund Section, Inactive Hazardous Sites Branch "*Registered Environmental Consultant (REC) Program – Implementation Guidance"*, dated November 2012, Edited December 12, 2012 (Guidelines).

Please note that previous environmental investigations have been performed at the site by Terracon that include the collection of soil samples, installation of groundwater monitoring wells, the collection of groundwater samples and reporting. Copies of the previous environmental investigation reports have been submitted to the NCDENR. If you have any questions regarding this Work Plan or the previous assessment activities, please contact us at [illegible]-1600.

Sincerely,
Terracon Consultants, Inc.

Allen McColl
Staff Professional
Environmental Services

Christopher L. Corbitt, PG
Senior Project Manager
Environmental Services

Attachments

cc: Mr. John Pike – Goldsboro Milling Company

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.0306(G) REMEDIAL INVESTIGATION WORK PLAN

.0306(g)(1) Site Background Information

Site Name: Goldsboro Milling Company's Mill #1 Property

Site Location: 938 Millers Chapel Road
Goldsboro, Wayne County, North Carolina
(252) 353-1600

Latitude/Longitude: 35° 21.822' North / -77° 53.469' West

Land Use: The site and nearby properties (mostly owned by Goldsboro Milling or their subsidiaries) are zoned as Industrial (I2).

.0306(g)(2) Hazardous Waste Management Practices

No hazardous wastes (by characteristic) are currently generated on the site.

.0306(g)(3) Topographic Map

Topographic Map: Southeast Goldsboro, North Carolina USGS 7.5-Minute Series Topographic Map, dated 1998 (Figure 1).

.0306(g)(4) Site Survey Plat

The site survey is currently being updated by a North Carolina-Registered Surveyor in order to comply with REC Program requirements. The survey will include the locations of on-site groundwater monitoring wells from past assessment activities and underground utilities.

.0306(g)(5) Geologic and Hydrogeologic Conditions

Based on the geologic map, the site is located in the Atlantic Coastal Plain geologic province.

Formation: Black Creek

Description: Clay, gray to black, lignitic; contains thin beds and laminae of fine-grained miceous sand and thick lenses of cross-bedded sand. Glauconitic, fossiliferous clayey sand lenses in upper part.

Regionally the site is located in the lower Coastal Plain Physiographic Province. Atlantic Coastal Plain deposits consist mainly of marine and deltaic sediments, which were deposited during successive periods of fluctuating sea level and a laterally moving shoreline. The soils include sands, silts and clays with irregular deposits of shells typically deposited in a shallow, sloping sea bottom. Alluvial-deposited sands, silts and clays are typically present near rivers

and creeks. The site is underlain by a thick sequence of marine sediments of Cretaceous age known as the Black Creek Formation.

According to the Wayne County Soil Survey, soils at the site have been mapped as Kenansville loamy sand (Ke), Leon sand (Ln), Norfolk loamy sand (NoA), Torhunta loam (To) and Weston loamy sand (We).

Kenansville loamy sand – a well-drained soil on broad, smooth flats and slightly convex divides, infiltration is moderately rapid, runoff is slow and the depth to seasonal high water table is about 5 feet below land surface.

Leon sand – a somewhat poorly drained soil on broad, smooth inter-stream divides, infiltration is rapid, runoff is slow and the depth to seasonal high water table is about 1.5 feet below land surface.

Norfolk loamy sand, 0 to 2 percent slopes – a well-drained soil on smooth, broad divides, infiltration is moderate, runoff is slow and the depth to seasonal high water table is about 5 feet below land surface.

Torhunta loam – a very poorly drained soil on smooth, flat areas between streams and in oval depressions, infiltration is moderate, runoff is slow and the depth to seasonal high water table is at or near the ground surface in low lying areas.

Weston loamy sand – a poorly drained soil on smooth flats, infiltration is moderate, runoff is slow and the depth to seasonal high water table is at or near the ground surface in low lying areas.

In the Black Creek Formation, groundwater is generally stored within the pore spaces of the Black Creek Aquifer, which consists of thinly laminated clay interlayered with sand. Typically, the water table is not a level surface, but a subdued reflection of the land surface. The hydraulic conductivity averages 28 ft/day. The depth to the water table is not consistent and is dependent upon several factors that include the amount of rainfall, permeability of the soil, the extent of fracturing in the underlying rock and the influences of groundwater pumping. Groundwater typically flows in directions parallel to the ground surface and under the influence of gravity, migrates to discharge points such as surface water features, the toes of slopes or natural springs. Recharge occurs mainly by downward percolation from the overlying sediments. Based on Terracon's previous environmental investigations at the site, the depth to groundwater has ranged between 6 to 7 feet below land surface.

Fluctuations in the depth of the water table can be expected depending on variations in precipitation, surface water run-off and other factors not evident at the time of our subsurface exploration. Normally, the highest levels of the water table occur in late winter and spring and the lowest levels occur in the late summer and fall. The inferred groundwater flow direction on

the site, based on surface topography and Terracon's previous environmental investigations on the site, is towards the south.

Sources: Topographic Map, 7.5-minute series, Southeast Goldsboro, North Carolina Quadrangle dated 1998, published by the US Geological Survey.

Geologic Map of North Carolina, dated 1985.

Hydrogeologic Framework of the Northern Carolina Coastal Plain, U.S. Geological Survey Professional Paper 1404-I, by M.D. Winner, Jr. and R.W. Coble, The U.S. Government Printing Office, dated 1996.

Soil Survey of Wayne County, North Carolina, United States Department of Agriculture, Soil Conservation Service, dated June 1974.

Limited Solvent Investigation Services Report, by Terracon, dated December 28, 2011 performed at Goldsboro Milling Company's Mill #1 Property

.0306(g)(6) Sources of Potable Water

Potable water: Wayne Water District municipal water supply

According to Mr. Joey Threewitts, Operations Manager for the Wayne Water District, the source of public water for the site originates from well fields that are located approximately 6 miles from the release area.

The closest public water supply line extends along Millers Chapel Road located approximately 300 feet to the west of the release area.

To determine the presence of water supply wells in the vicinity of the project site, Terracon performed a walking/driving reconnaissance in the project area.

A water supply well is located at Goldsboro Milling Company's night manager's residence. The night manager's residence is located on a separate adjoining tract (Mill #2 Property) owned by Goldsboro Milling. The water supply well is located approximately 1,400 feet southeast and apparently down-gradient of the release area.

Terracon collected a water sample from the night manager's water supply well on September 6, 2012 as requested by the NCDENR Inactive Hazardous Sites Branch (IHSB). The sample obtained from the water supply well at the night manager's residence was analyzed for volatile and semi-volatile constituents, including chlorinated compounds. The target analytes were

below the laboratory's method detection limits. The night manager's well was also analyzed for copper which was detected at a concentration of 7 micrograms per liter (ug/L). The level of copper is well below the NCDENR 2L Groundwater Quality Standard of 1,000 ug/L.

Although sampling has not indicated contamination at the water supply well at the night manager's residence, Goldsboro Milling Company is now providing bottled water to the night manager's residence.

In addition to the night manager's well, nine other water supply wells were identified within 1,500 feet of the release area. These nine wells are used on Goldsboro Milling's properties for truck washing, filling a pond at the main office or as water supplies for the site's grain/hatchery operations. None of the other nine water supply wells are reportedly used as a potable source for water. Terracon did not identify additional water supply wells within 1,500 feet of the release area.

.0306(g)(7) Environmentally Sensitive Areas

Terracon evaluated the site for the potential presence of "environmentally sensitive areas" listed in the Guidelines, dated December 12, 2012. None of the listed environmentally sensitive areas were identified on the site. Terracon is in the process of contacting the State and Federal agencies listed In Appendix B of the Guidelines. Once a response has been received, we will include that agency's response in the Phase II Remedial Investigation Report.

.0306(g)(8) Property Deed

Based on a review of information obtained from Wayne County tax records, the current site owner is J.L Maxwell, Jr. and H.G. Maxwell, III. A copy of the property deed is included in Appendix A.

.0306(g)(9) Property Ownership

Terracon has requested a chain-of-title from the property owner. A chronological listing of property owners since the site was initially developed will be provided in the Phase II Remedial Investigation Report. A copy of the chain-of-title information is provided in Appendix A.

Terracon conducted a limited property ownership search at the Wayne County Register of Deeds Office. Based on our limited property ownership search, the current property owner's for Mill #1 are L. J. Maxwell, Jr. and H.G. Maxwell, III. L. J. Maxwell, Jr. and H.G. Maxwell, III obtained the property on December 30, 1966 from Goldsboro Milling Company. Terracon did not identify when Goldsboro Milling Company obtained the property.

.0306(g)(10) Operations History

Terracon conducted a Phase I Environmental Site Assessment (ESA) of the site in September

2011. Based on the findings of the Phase I ESA, the Mill #1 property was utilized as an agricultural field from at least 1940 until 1965. Reportedly, portions of Mill #1 were first developed in 1968 as a hatchery. The facility was converted to a grain mill in 1972. Structures similar to the locations of the current grain silos are first depicted on a 1971 aerial photograph. Reportedly, Mill #1 has undergone several phases of expansion since 1968.

.0306(g)(11) Hazardous Substance List

Terracon is in the process of obtaining copies of Material Safety Data Sheets (MSDSs) for products used at Goldsboro Milling Company's Mill #1. We are currently evaluating the MSDSs and making inquiries with Goldsboro Milling Company's personnel regarding relevant knowledge of current and past usage of hazardous substances on the site. No known hazardous wastes (by characteristic) are currently generated on the site.

.0306(g)(12) Environmental Permit History

According to Goldsboro Milling Company's Director of Operations, Mr. John Pike, Goldsboro Milling currently has stormwater and air permits for operations at the Mill # 1 facility. Copies of the Mill # 1 environmental permits are being obtained and will be discussed in the forthcoming Phase II Remedial Investigation Report

.0306(g)(13) Regulatory History

Terracon conducted a Phase I ESA for the Mill #1 property in September 2011, a Limited Site Investigation (LSI) report in November 2011, a Limited Solvent Investigation Services report in December 2011, a Site Cleanup Questionnaire in August 2012 and a Limited Water Supply Well Sampling Report in September 2012. A summary of the regulatory history is provided from information obtained during the completion of these assessments.

Information provided in the Phase I ESA (2011) indicated Goldsboro Milling Company is listed as a RCRA Small Quantity Generator (SQG) of hazardous waste. The facility also operated underground storage tanks (USTs) and is a documented LUST facility associated with a release from the USTs.

Based on the regulatory records, Goldsboro Milling Company as a small quantity generator accumulates the following hazardous waste types: ignitable hazardous waste, corrosive hazardous waste and non-halogenated solvents. The regulatory records did not specify which operations of Goldsboro Milling Company are associated with the generation of hazardous waste but it is assumed these operations are associated with Goldsboro Milling Company's truck repair shop located on an adjoining property across Miller's Chapel Road (part of Goldsboro Milling's main facility, but on a separate tract from Mill # 1). Terracon will verify the operations that generate hazardous waste at Goldsboro Milling Company during the completion of the Phase II Remedial Investigation Report.

Based on information from the regulatory records review, Goldsboro Milling Company received one written informal notice of violation from the NCDENR related to pre-transportation requirements in 1997. The facility is now compliant with the notice of violation. No other RCRA violations were documented for the facility.

Goldsboro Milling Company operates a gasoline UST and a diesel UST in a shared tank basin located south of the main office for Goldsboro Milling Company, approximately 600 feet north of the documented solvent release area. The registered tanks are located on a separate parcel owned by Goldsboro Milling Company that adjoins the Mill # 1 property.

The documented LUST incident at the tank basin near the main office was associated with a leaking gasket discovered at the diesel dispenser pump that impacted the nearby soils. Groundwater sampling performed by Terracon did not reveal an impact to the groundwater. It is our understanding that the NCDENR will issue a "Notice of No Further Action" (NFA) for the main office tank incident once a Notice of Residual Petroleum (NRP) for the soil contamination has been filed at the Wayne County Register of Deeds Office.

During the completion of the ESA, a concrete-paved area was observed to the west of the Mill #1 office and warehouse. According to Goldsboro Milling Company personnel, the concrete-paved area was formerly the dispenser island for several former diesel and gasoline USTs utilized at Mill #1. The USTs are reportedly located near the former dispenser island and have been abandoned in place. Closure documents including sampling results are reportedly not available for the underground tank systems.

Based on the lack of closure documentation for the Mill #1 USTs, Terracon conducted a Ground Penetrating Radar (GPR) investigation followed by soil and groundwater sampling and analysis in the area of the Mill #1 USTs. The GPR investigation identified five potential USTs and product lines in the area of the former dispenser island.

Soil sampling conducted in the area of the Mill # 1 USTs in October 2011, consisted of advancing nine borings by a Geoprobe® direct-push drill rig. Based on field screening results with a photo-ionization detector (PID), four soil samples were collected at the site and analyzed for gasoline range organics (GRO) and diesel range organics (DRO). Additionally, four groundwater samples were obtained at the site and analyzed for volatile organic compounds (VOCs) by EPA Method 8260 and semi-volatile organic compounds (SVOCs) by EPA Method 8270 due to a shallow water table depth.

The analytical results indicated one soil sample (collected near the center of the former dispenser island) detected gasoline and diesel petroleum constituents at levels above the NCDENR action level of 10 milligrams per kilogram (mg/kg). Laboratory results of the groundwater sample collected from this boring location also detected various petroleum constituents at concentrations that exceeded their respective 2L Groundwater Quality Standards. The laboratory results for the groundwater samples also detected tetrachloroethene

(PCE), trichloroethene (TCE) and various daughter products at concentrations that exceeded their respective 2L Groundwater Quality Standards near the former dispenser island. Since the tanks near the former dispenser island reportedly contained petroleum compounds only, a source for the chlorinated compounds is unknown at this time.

Based on conversations with Goldsboro Milling Company, Terracon was requested to perform additional sampling in order to to define the extent of chlorinated compounds in the groundwater. Terracon also notified the Washington Regional Office of the NCDENR to report the discovered release and provide a copy of the assessment report.

On November 15, 2011, Mr. Scott Bullock with the UST Section in the Washington Regional Office issued a Notice of Regulatory Requirements (NORR) requiring a Notice of Residual Petroleum (NRP) be filed for soil and groundwater prior to the second LUST incident at Mill # 1 receiving No Further Action status. The NORR also indicated that the Inactive Hazardous Sites Branch (IHSB) would be notified regarding the chlorinated compounds detected in the groundwater at the site.

On November 28, 2011, Mr. John Walsh with the IHSB issued a "Notice of Regulatory Requirements for Contaminant Assessment and Cleaup" The NORR requested Goldsboro Milling Company complete a "Site Cleanup Questionaire" and consider enrolling in a Voluntary Cleanup Program (VCP) with a Registered Environmental Consultant (REC).

In late 2011, Terracon installed six permanent groundwater monitoring wells at the site to evaluate the extent of chlorinated compounds. The evaluation included sampling of four water supply wells that are located within 1,500 feet of the area where chlorinated compounds were detected on the property. PCE and TCE were detected in six of the groundwater samples (MW-1, MW-2, MW-3, MW-4, MW-6 and Supply Well 4) at levels that exceeded the 2L Groundwater Quality Standards. In well MW-3, PCE was detected above its Gross Contamination Level (GCL).

Tetrachloroethene was also detected in the soil sample collected during the advancement of well MW-3 (located in the center of the former pump island) at a concentration above the Industrial/Commercial Soil to Water Maximum Soil Contaminant Concentration (MSCC). No analytes were detected in the soils from the other five wells installed at the site. A copy of the report was submitted to the NCDENR.

Terracon submitted the Site Cleanup Questionnaire on behalf of Goldsboro Milling Company to Mr. Keith Snavely with the IHSB in August 2012. After review of the questionnaire, Mr. Snavely requested the following additional activities.

- Sampling of the water supply well at the night manager's residence that had not been sampled during our previous investigations.

- Sampling of the water supply well at the truck wash (Supply Well #4) near the entrance of Mill #1 where PCE was detected previously at a concentration above the 2L Groundwater Quality Standard.

According to Mr. Snavely, once this water supply well information is received, the IHSB could make a final determination of eligibility for enrollment into the Voluntary Cleanup Program.

Water samples were collected from Supply Well # 4 and the night manager's residence well in September 2012. Laboratory results indicated no volatile or semi-volatile constituents were detected in the wells above the method detection limits. Manganese (16.3 ug/l) and zinc (24.7 ug/l) were detected in Supply Well # 4 at levels below their respective 2L standards. Copper was detected in the night manager's residence well at a concentration of 7 ug/l which is below the established 2L standard of 1,000 ug/l.

On May 1, 2013, Goldsboro Milling Company entered into an Administrative Agreement (AA) with the Registered Environmental Consultant (REC) Program in compliance with 15A NCAC 13C .0300. Terracon met with representatives of Goldsboro Milling Company in April 2013 to discuss the REC Program and our plans for further assessment and remedial options. As a result of the meeting, Terracon developed a proposal to conduct Phase II Remedial Investigation activities to augment the environmental investigation activities previously conducted at the site. The findings of the proposed activities will be provided in a Phase II Remedial Investigation report for the Goldsboro Milling Company Mill #1 property.

.0306(c) Quality Assurance for Sampling and Analysis

(1) Data Quality Objectives

Obtain and use a level of data quality that is commensurate with its intended use. Data reporting will be performed as outlined in Appendix A, Section A.8 of the Guidelines. Terracon will follow generally accepted standards of practice for hazardous substance site investigations.

(2) Methods for Sample Collection and Analysis

Terracon will follow field protocols, analytical methods and data reporting procedures outlined in Appendix A, Sections A.6, A.7 and A.8 of the Guidelines.

Requirements for Analytical Laboratories

Analytical Laboratory: Pace Analytical Services, Inc.
9800 Kincey Street,
Huntersville, North Carolina
(704) 875-9092

(5) Qualifications for Field Staff

Terracon personnel involved in the project will be professional consulting scientists and engineers. Terracon conducts in-house training for our field staff as part of our QA/QC program. Our field personnel have experience with similar investigative type projects. In addition, Terracon field personnel maintain EPA Hazardous Waste Operations and Emergency Response (HAZWOPER) certifications in accordance with 40 CFR 1910.120.

(6) Reporting Analytical Results

As customary practice, Terracon personnel shall, at the time of sample collection, record the sample identification name/number, date and time of sample collection, name/initials of field person collecting the sample and the laboratory analytical method to be performed. This information will also be recorded on the laboratory chain-of-custody. Chain-of-custody procedures will be maintained by Terracon personnel until the laboratory receives the samples.

The laboratory analytical results will be reported in the Phase II Remedial Investigation report in accordance with "Data Reporting Procedures" as outlined in Appendix A, Section A.8.

.0306(g)(14) Intended Procedures for Site Characterization

The site will be characterized by advancing soil borings, installing monitoring wells and collecting soil and groundwater samples for laboratory analysis.

.0306(g)(15) Sample Collection Points

Delineation of Solvent Contamination in Soil

- Prior to drilling activities, Terracon will contact NC-One Call, a public utility locating company, to identify potential underground utilities entering the site and/or engage a private utility locator to identify underground utilities that could be present at the proposed boring locations.

- Terracon will advance up to eight soil borings (B-1 through B-8) utilizing a Geoprobe® drill rig. Four borings will be advanced near the former pump island where previous soil samples have indicated solvent contamination. The other four borings will be advanced near the sampling gallow to evaluate the structure as a potential source area for solvents. The borings are intended to delineate the lateral extent of chlorinated compounds in soils. Terracon will screen the soils at approximate 2-foot intervals with a PID. One soil sample from each boring exhibiting the highest PID readings or just above the groundwater saturation zone will be submitted for laboratory analysis. It is expected that groundwater will be encountered at a depth of approximately 6 to 7 feet below land surface. Terracon will collect up to 8 soil samples for laboratory analysis.

- The samples will be collected and placed in laboratory prepared containers, labeled, and placed in an ice-packed cooler which will be secured with a custody seal. The samples and completed chain-of-custody forms will be transported to a North Carolina certified analytical laboratory for analysis of volatile organic compounds by EPA Method 8260 on a standard laboratory schedule.

- Two soil samples from selected borings will be analyzed in our geotechnical laboratory for grain size distribution utilizing sieve and hydrometer techniques.

Water Quality Evaluation

- Mobilize to the site with a licensed well driller to supervise the installation of five additional permanent groundwater monitoring wells (MW-7 through MW-11) using a truck-mounted drill rig. One of the wells will be installed to approximately 50 to 75 feet below land surface to evaluate the vertical extent of the chlorinated compounds.

- The wells will be developed by purging. Once the measured parameters of temperature, pH and conductivity remain relatively constant, the wells will be considered developed.

- Prior to purging and collecting a groundwater sample, we will measure the depth to water in each well.

- A water sample will be collected from each well and submitted to a certified laboratory for analysis of volatile organic compounds by EPA Method 8260.

- Terracon will also collect groundwater samples from three of the on-site groundwater monitoring wells and perform laboratory analysis of nitrates, manganese, iron and sulfate. We will also obtain field measurements for dissolved oxygen (DO) and oxidation-reduction potential (ORP). These geochemical parameters will be used to assist us during our evaluation of the effectiveness of the biodegradation process.

The approximate locations of the wells are shown on the attached Site Plan (Figure 2) and the approximate locations of the borings are shown on the attached Tank/Sample Location Map (Figure 3).

.0306(g)(16) Field and Laboratory Procedures

Field procedures will be conducted in general accordance with EPA Region IV, *"Field Measurement Procedures"*, where applicable.

As part of field quality control procedures, blind duplicate samples, equipment rinse blanks and VOA trip blanks will be included on the chain-of-custody for analysis by the laboratory.

.0306(g)(17) Analytical Parameters and Methods

Soils and Sediments: Volatile Organic Compounds (VOCs) by EPA Method 8260
Groundwater: VOCs by EPA Method 8260

.0306(g)(18) Decontamination Procedures

Equipment

Once removed from the sampling location, non-dedicated equipment (Geoprobe® rods, water quality meters) should be cleaned in a Liqui-nox/Alconox solution and then rinsed with distilled water to help ensure there will be no cross-contamination between sampling points.

Disposable items such as bailers, rope and tubing should be properly disposed in plastic trash bags between sampling locations.

The likelihood of cross-contamination may be reduced by sampling the least contaminated wells first and progressing to the more contaminated wells.

Personnel

In order to further reduce the likelihood of exposure and potential cross-contamination, personnel will change gloves frequently, between each task or in the event gloves become damaged.

Personnel decontamination procedures are further discussed in the site specific Health and Safety Plan. Please see Section .0306(g)(19) Community Health and Safety Plan below.

.0306(g)(19) Community Health and Safety Plan

Chlorinated compounds identified in soils and groundwater at the site were detected at an approximate depth of 6 to 7 feet below land surface. Based on the depth of the documented chlorinated compounds below land surface from previous environmental investigations that have been performed by Terracon, the potential for human exposure is low.

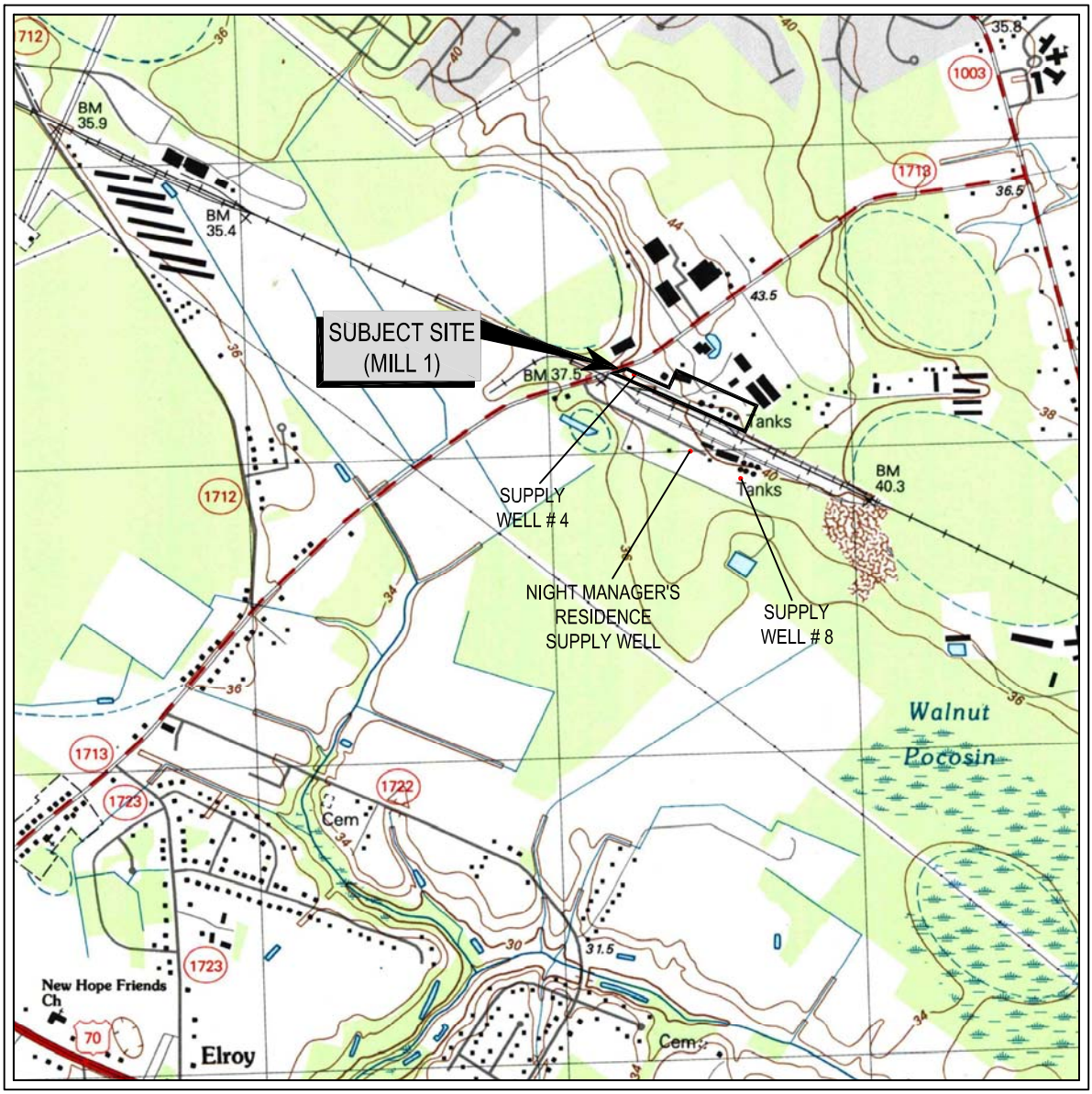
A site specific health and safety plan has been developed to protect environmental professionals and the public from exposure during assessment and remedial activities at the site. A copy of the Health and Safety Plan is included in Appendix B.

.0306(b)(1-2) Work Plan Certifications

Copies of the Work Plan certification documentation are included in Appendix C.

Figures

UNITED STATES – DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY



SCALE 1:24 000

1 .5 0 KILOMETERS 1 2

1000 0 METERS 1000 2000

1 .5 0 1

MILES

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10 000

FEET

CONTOUR INTERVAL 5 FEET

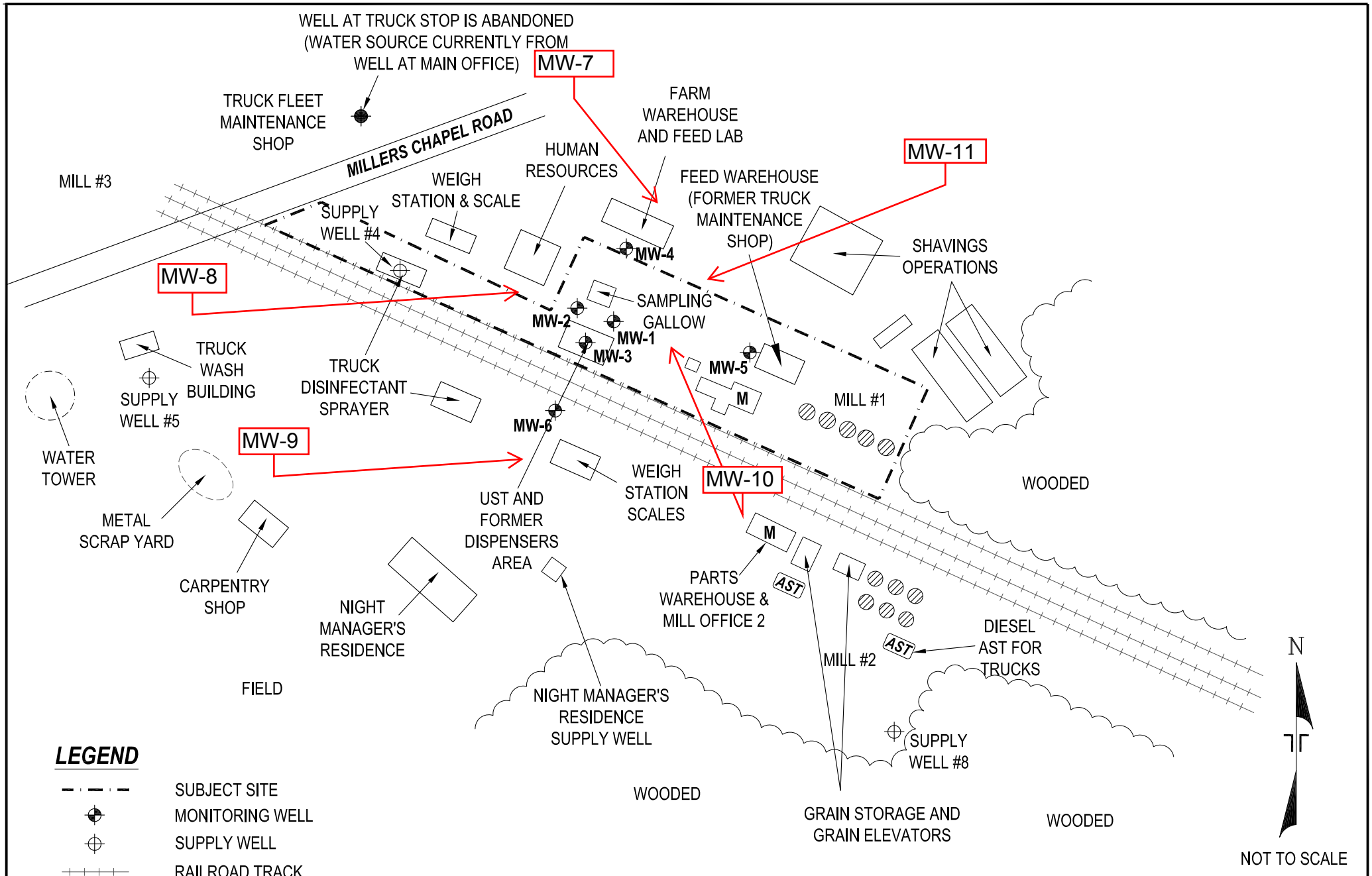
NATIONAL GEODETIC VERTICAL DATUM OF 1929

TOPO LINES REPRESENT 5–FOOT CONTOURS

N

QUADRANGLE
SOUTHEAST GOLDSBORO, NC
1998
7.5 MINUTE SERIES (TOPOGRAPHIC)

Project Mngr: KAM	Project No. 72127088	Terracon Consulting Engineers and Scientists	TOPOGRAPHIC VICINITY MAP	FIG. No.
Drawn By: TLY	Scale: AS SHOWN	314 Beacon Drive Winterville, NC 28590	LIMITED WATER SUPPLY WELL SAMPLING SERVICES	1
Checked By: MRF/KAM	File No. LWS72127088-1	(252) 353-1600 (252) 353-0002	GOLDSBORO MILLING COMPANY	
Approved By: CB	Date: SEPTEMBER 2012		938 MILLERS CHAPEL ROAD	
			GOLDSBORO, NC	



THIS DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

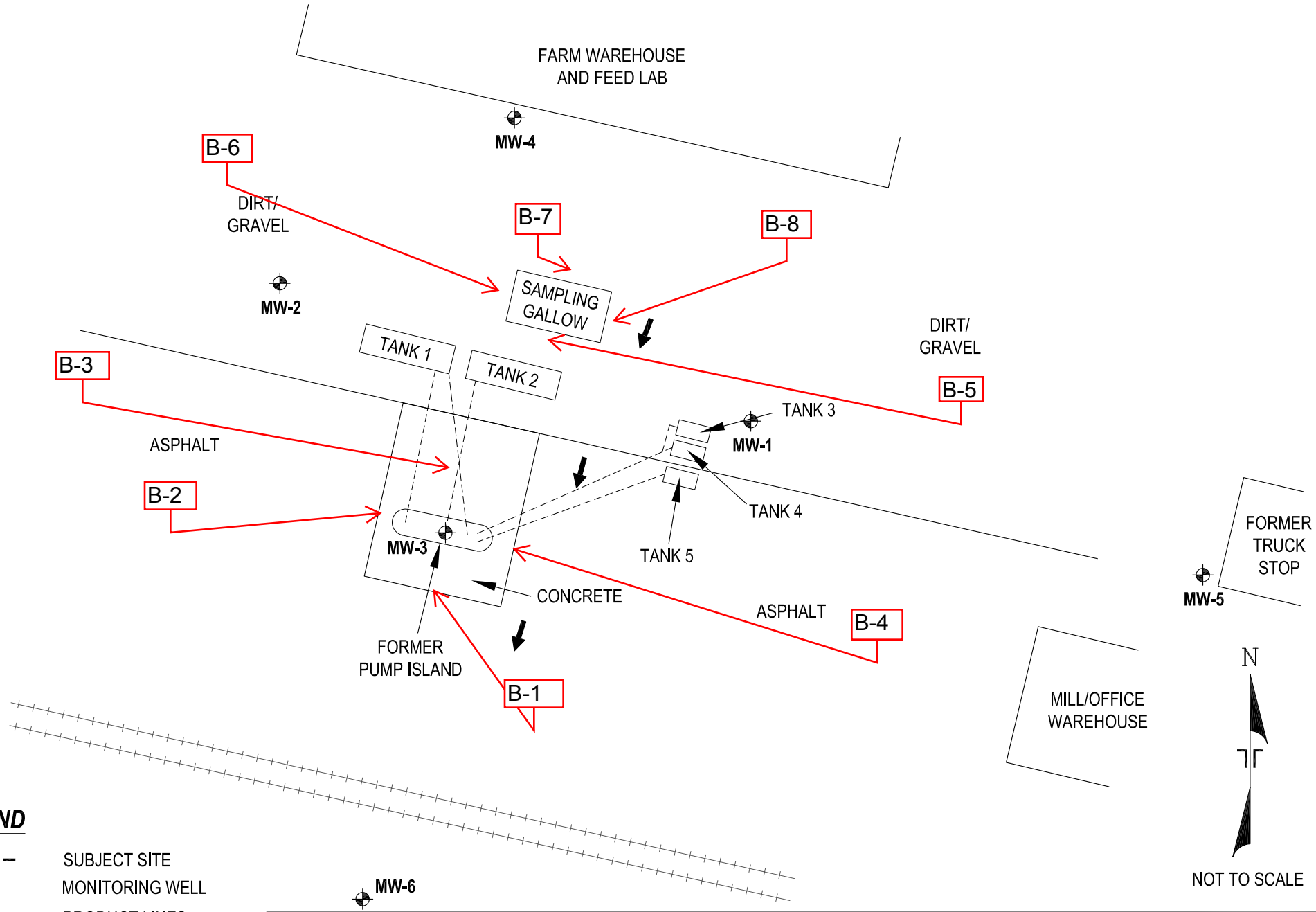
Project Mngr: KAM	Project No. 72127088
Drawn By: TLY	Scale: AS SHOWN
Checked By: KAM/MRF	File No. LWS72127088-2
Approved By: CB	Date: SEPTEMBER 2012

Terracon
Consulting Engineers and Scientists
314 Beacon Drive Winterville, NC 28590
(252) 353-1600 (252) 353-0002

SITE DIAGRAM

LIMITED WATER SUPPLY WELL SAMPLING SERVICES
GOLDSBORO MILLING FEED MILL
938 MILLERS CHAPEL ROAD
GOLDSBORO, NC

FIG. No. 2



THIS DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr: KAM	Project No. 72117095
Drawn By: TLY	Scale: AS SHOWN
Checked By: KAM/MRF	File No. LSI72117095-3
Approved By: CB	Date: NOVEMBER 2011

Terracon
Consulting Engineers and Scientists
314 Beacon Drive Winterville, NC 28590
(252) 353-1600 (252) 353-0002

TANK/SAMPLE LOCATION MAP

LIMITED SOLVENT INVESTIGATION
GOLDSBORO MILLING FEED MILL
938 MILLERS CHAPEL ROAD
GOLDSBORO, NC

FIG. No. 3

Appendices

Appendix A

Property Deed Record

NORTH CAROLINA

WAYNE COUNTY

THIS DEED, Made this the 30th day of December, 1966, by and between GOLDSBORO MILLING COMPANY, a North Carolina corporation with its principal office in Goldsboro, Wayne County, North Carolina, party of the first part, and J. L. MAXWELL, JR. and H. G. MAXWELL, III, of the County of Wayne, State of North Carolina, parties of the second part;

W I T N E S S E T H:

That said party of the first part, for and in consideration of the sum of Ten and 00/100 ($10.00) Dollars and other valuable considerations to it in hand paid, the receipt of which is hereby acknowledged, has bargained and sold and by these presents does bargain, sell and convey unto the said parties of the second part, their heirs and assigns, those certain tracts or parcels of land situated in the County of Wayne, State of North Carolina, and more particularly defined and described as follows:

TRACT NO. 1 being known as the "Robey C. Best Farm" situated in Brogden Township, Wayne County, North Carolina, located on both sides of N. C. Secondary Road No. 1926 and being particularly described as follows:

BEGINNING at a spike in the centerline of the intersection of N. C. Secondary Road No. 1926 and the Atlantic Coast Line Railroad Company right-of-way and running thence with the centerline of said railroad right-of-way N. 37° 14' E. 400 feet; thence N. 39° 27' E. 1263.0 feet to the Southern edge of the Neuse River; thence leaving the railroad right-of-way and running with the Southern edge of the Neuse River S. 51° 10' E. 126.6 feet; thence S. 50° 46' E. 149.9 feet; thence S. 52° 40' E. 200.7 feet; thence S. 47° 26' E. 364.84 feet; thence S. 50° 50' E. 237.1 feet; thence S. 49° 34' E. 210.6 feet; thence S. 79° 31' E. 31 feet to a cypress tree at the junction of Moore Mill Creek and the Neuse River; thence leaving the edge of the Neuse River and running S. 38° 18' W. 1330.97 feet to a cypress stump; thence S. 14° 54' E. 346.5 feet to a buried crosstie in the centerline of an old Tram Road; thence with the center of said Tram Road S. 65° 06' W. 268.5 feet; thence S. 68° 44' W. 387.7 feet; and thence S. 69° 26' W. 300 feet to a railroad spike in the centerline of the right-of-way of N. C. Secondary Road No. 1926; thence with the centerline of the right-of-way of N. C. Secondary Road No. 1926 S. 7° 05' E. 739.7 feet to a nail the Northeast corner of a lot conveyed to John M. Johnson by deed recorded in Book 537, page 207, of the Wayne County Registry; thence leaving said right-of-way and running S. 82° 49' W. 230 feet to an iron stake; thence S. 7° 11' E. 154.4 feet to an iron stake in a hedge row; thence N. 60° 38' W. 349.01 feet to a concrete monument on the ditch bank; thence S. 28° 58' W. 699.85 feet to a stake in the centerline of a ditch; thence with the center of the ditch N. 61° 05' W. 414 feet to an iron stake; thence S. 29° 57' W. 455.8 feet to an iron stake; thence N. 60° 25' W. 461.1 feet to a point in the centerline of the right-of-way of Atlantic Coast Line Railroad Company; thence with the centerline of the railroad right-of-way the following courses and distances: N. 18° 36' E. 400 feet;

N. 21° 23' E. 400 feet; N. 23° 55' E. 400 feet; N. 26° 23' E. 400 feet; N. 28° 40' E. 400 feet; N. 31° 24' E. 400 feet; N. 33° 49' E. 400 feet; and thence N. 35° 33' E. 127 feet, more or less, to the point of beginning, containing a total of 123.18 acres, more or less, including the highway and railroad rights-of-way, it being understood that the bearings in this description are contingent upon the tangent bearing of the railroad right-of-way being N. 29° 37' E.; and being a consolidated description of the remaining lands owned by Robey C. Best and wife, Inez J. Best, the same having been devised to Robey C. Best under the last Will and Testament of Major T. Best recorded in Will Book 8, page 436, in the office of the Clerk of Superior Court, Wayne County, as allotted to him in the division of the lands of Major T. Best and being, also, that certain land conveyed to Robey C. Best and wife, Inez J. Best, by deed dated April 26, 1947, from Charles M. Hobson, Jr. and wife, Mary Frances Parker Hobson, which deed is recorded in Book 314, page 555, of the Wayne County Registry. And being the same land conveyed to Goldsboro Milling Company by Robey C. Best and wife, Inez J. Best by deed dated August 1, 1966 and recorded in Book 671, page 27, of the Wayne County Registry.

Tr # 2

TRACT NO. 2 being situated in New Hope Township, Wayne County, North Carolina, and more particularly described as follows:

BEGINNING at a concrete post in the Northern edge of N.C.S.R. No. 1713, and a common corner of the lands of Winston Best and lands of Kimber N. Best, the Kimber N. Best property being described in Book 516, at page 440, in the Wayne County Registry; and running thence S. 27° 56' E. 1146.60 feet to a concrete post; thence N. 63° 57' E. 196.27 feet to a concrete post; thence S. 28° 56' E. 1018 feet to a concrete post; thence S. 65° 23' W. 2104.89 feet to an iron stake; thence N. 41° 17' W. 1393.31 feet to a concrete post in a ditch; thence with said ditch S. 60° 13' W. 126.55 feet to a stake; thence continuing with said ditch N. 44° 46' W. 511.90 feet to a concrete post; thence N. 5° 02' E. 90.54 feet to a stake; thence N. 57° 37' E. 313.38 feet to a stake; thence N. 43° 57' W. 280.97 feet to a concrete post in the Southern edge of N.C.S.R. No. 1713; thence continuing N. 43° 57' W. 35.50 feet to a nail in the center of N.C.S.R. No. 1713; thence with the center line of N.C.S.R. No. 1713 S. 78° 29' W. 374.92 feet to a nail; thence with the curvature of said road S. 73° 34' W. 314.06 feet to a nail in the center of said road; thence N. 29° 49' W. 30 feet to a concrete post in the ditch on the Northern edge of said road; thence with said ditch N. 60° 11' E. 339.94 feet to a stake; thence N. 43° 39' E. 50.8 feet to a stake; thence N. 40° 57' E. 346.60 feet to a concrete post on the Southern edge of A. & N. C. Railroad right-of-way; thence continuing N. 40° 57' E. 101.9 feet to the center of said railroad right-of-way; thence S. 59° 47' E. 642.87 feet to stake in the center of a culvert; thence N. 62° 36' E. 118.42 feet to a concrete post in the Northern edge of said railroad right-of-way; thence continuing N. 62° 36' E. 2293.52 feet to a concrete post in a ditch; thence S. 27° 56' E. 1077 feet to a concrete post, the point of beginning and containing 167.76 acres, including all rights of way or a total of 148.54 acres exclusive of said rights of way and being a portion of the property of Winston Best as recorded in Deed Book 516, at page 444, in the office of the Register of Deeds of Wayne County, North Carolina. And being the same property which appears on a plat prepared by A. E. Little, Registered Surveyor, on September 15, 1966, entitled "Property of Goldsboro Milling Company", recorded in Map Book 13, at page 23, Wayne County Registry. And being the same land conveyed to Goldsboro Milling Company, by Winston P. Best and wife, Ruth E. Best, by deed dated November 22, 1966, and recorded in Book 677, page 320 in the office of the Register of Deeds, Wayne County, North Carolina.

S/B: N 59°47'W 642.87'

TO HAVE AND TO HOLD the aforesaid tracts or parcels of land and all privileges and appurtenances thereto belonging to the said parties of the

second part, their heirs and assigns, to their only use and behoof forever.

And the said party of the first part covenants for itself, its successors and assigns, to and with the parties of the second part, their heirs and assigns, that it is seized of said premises in fee and has the right to convey the same in fee simple; that the same are free and clear from all encumbrances except certain indebtedness secured by a deed of trust conveying Tract No. 1 hereinbefore described from Goldsboro Milling Company to Lindsay C. Warren, Jr., Trustee, dated August 1, 1966, and recorded in Book 674, page 435, of the Wayne County Registry, and certain indebtedness secured by a deed of trust conveying Tract No. 2 hereinbefore described from Goldsboro Milling Company to Thomas E. Strickland, Trustee, dated November 22, 1966, and recorded in Book 679, page 582, of the Wayne County Registry, the unpaid balances of which the party of the first part covenants and agrees to pay in accordance with the terms and conditions set forth in said deeds of trust, and that it will warrant and defend the title to said lands against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, Goldsboro Milling Company has caused this instrument to be signed in its name by its President, its corporate seal to be hereto affixed and attested by its Secretary, this the day and year first above written.

GOLDSBORO MILLING COMPANY

By _____
President

ATTEST:

_____
Secretary

NORTH CAROLINA

WAYNE COUNTY

This is to certify that on this the 30th day of December, 1966, before me, H. G. Maxwell, III, a Notary Public, personally came H. G. Maxwell, III, with whom I am personally acquainted, who being by me duly sworn, says that J. Louis Maxwell, Jr. is President and that he is Secretary of Goldsboro Milling Company, the corporation described in and which executed the foregoing instrument; that he knows the common seal of the said corporation; that the seal affixed to the foregoing instrument is said common seal, and the name of the corporation was subscribed thereto by the said President, and that the said President and Secretary subscribed their names thereto, and said common seal was affixed, all by authority duly conferred.

Witness my hand and seal, this the 30th day of December, 1966.

H. G. Maxwell, III
Notary Public

My commission expires:

NORTH CAROLINA
WAYNE COUNTY

The foregoing certificate of W. B. Crawford, N.P. of Wayne County is adjudged to be correct. This instrument with the Certificate is registered, Witness my hand this 23 day of Feb. 1967

Janet Killum
Deputy Clerk Superior Court

FILED FOR REGISTRATION AT 12:55 P.M. Feb. 23 1967 AND RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS OF WAYNE COUNTY, N. C.

EULA B. WHITLEY, Register of Deeds

BY Hilda Price Asst Deputy

Appendix B

Health and Safety Plan

Safety and Health Plan
Chlorinated Solvent Contamination Anticipated

Goldsboro Milling Company's Mill # 1 Property

Goldsboro, Wayne County, North Carolina

July 24, 2013

Terracon Project No. 72137029

Prepared On Behalf of:
Goldsboro Milling Company
Goldsboro, North Carolina

Prepared by:
Terracon Consultants, Inc.
Winterville, North Carolina

1.0 APPLICABILITY

This Site Safety and Health Plan has been developed for the safety of Terracon personnel engaged in environmental services at the Goldsboro Milling Company's Mill 1 site in Goldsboro, Wayne County, NC. The purpose of this plan is to help assure that personnel assigned to field activities on this site leave uninjured at the conclusion of every work day. Safety expectations of Terracon personnel working on this site will be as follows:

- Follow the safety rules applicable to your job.
- If it is not safe, do not do it; do not have your co-worker do it either.
- If you see something that is unsafe, **speak up** immediately, there and then, to your supervisor, no matter who—no matter what.
- If you are not sure of something or do not understand something, **speak up and ask**.

All Terracon employees have the right to expect management cooperation in helping to keep them safe. Here is what you can expect from Terracon management while engaging in services at this project site:

- If you stop a task for a safety reason, we will back you up.
- If you bring up a safety concern, we will address it promptly. It will not go into a black hole.
- If there is an injury, we will conduct an incident investigation in a way that does not blame anyone—the person or people involved. The investigation will focus on learning, so that we can eliminate the next injury.

We want every employee to conduct field operations in accordance with our Incident and Injury-Free principals:

- Evaluate the hazards of the work you are getting into and control the hazards to the extent practical before engaging in site services.

- Be observant to people who are inexperienced, are anxious about their work and/or for those who are being complacent with safe work procedures. Speak up to both, out of care and concern, and help them see that doing their work safely is the right thing to do for both them and their families.

- Be open if someone speaks to you about potential unsafe behaviors or equipment, and cooperate in the spirit of getting the job done safely. Everybody deserves a future.

2.0 SAFETY AND HEALTH ADMINISTRATION

The Project Manager will be ultimately responsible for seeing that work is performed in accordance with the provisions contained in this Plan and with applicable State, Federal and local safety regulations. The designated DSO will monitor compliance with this Plan during field activities. All field team members engaged in project activities will be required to sign the Plan

"Acknowledgment of Instruction" form. The DSO will ensure that a copy of this Plan is available on site for the duration of project activities.

The individuals listed below are responsible for implementation and enforcement of the Plan. This information must be completed before site mobilization.

TITLE	NAME	PHONE
Project Manager	Allen McColl	910-474-6081
Safety and Health Mgr.	Gary A. Ganson, CIH, CSP	913-599-6886
Site Safety Officer	Allen McColl	910-474-6081
Senior Drill Crew Member	Thomas Ammons (EHC, Inc.)	910-850-4299
Client Contact	John Pike	919-778-3130

If hazardous conditions develop or appear imminent during the course of project activity, the DSO in conjunction with the Terracon Corporate Safety and Health Manager will coordinate actions required to safeguard site personnel and members of the general public. Additional safety measures will be verbally communicated to all project personnel, recorded in writing and appended to this Plan.

The Terracon Project Manager and/or DSO are responsible for:

- Providing subordinate personnel a copy of this Plan, and briefing them on its content.
- Enforcing the applicable provisions of this Plan.
- Inspecting and maintaining equipment in compliance with applicable federal, state or local safety regulations.
- Enforcement of corrective actions.
- Investigation of accidents or injuries.

3.0 MEDICAL SURVEILLANCE REQUIREMENTS

As hazardous chemical contaminants are not anticipated during the course of this geotechnical investigation, enrollment in the Terracon medical surveillance program will not be required for drilling personnel engaged in field activities on this project site. However, if chemical contamination is encountered during the course of this investigation, personnel enrolled in the Terracon medical surveillance program may be required, depending on our assessment of site hazards and exposure potential.

4.0 EMPLOYEE TRAINING REQUIREMENTS

Personnel engaged in geotechnical activities on this project site must have completed Terracon safety orientation, defensive driver and general drilling safety training. In addition, a minimum of 4 hours of Incident and Injury-Free training is required for each individual, and an additional 8-hour IIF supervisory skills training course for the DSO. General safety training in issues such as personal protective equipment and motor vehicle operations safety are also required for the general knowledge and awareness of site safety hazards.

Prior to the start of site activities, all project personnel will participate in a pre-project safety and health briefing outlining the contents of this Plan. The personnel responsible for project safety and health will be addressed, as will site history, scope of work, site control measures, emergency procedures and site communications. A daily "tailgate" safety and health briefing will be presented by the DSO at the start of each work day. At least one field team member will possess a current first aid training certificate.

5.0 SITE HISTORY/SCOPE OF SERVICES

Terracon personnel will mobilize to the site with a subcontracted drilling company that will utilize a truck-mounted drill rig to install groundwater monitoring wells in areas that have been historically analyzed to contain chlorinated solvent contamination in both soil and groundwater.

6.0 HAZARD ASSESSMENT

6.1 Chemical Hazards

Chemical Hazards
As indicated groundwater and/or soils at this project site may be impacted by chlorinated solvents such as perchloroethylene, trichloroethylene, methyl chloroform and dichloroethylene. Brief toxicological profiles of various chlorinated solvent compounds are presented below. For additional information regarding chemical and physical hazards of anticipated chlorinated solvent compounds, see the chemical product information sheets attached to this Plan

CARBON TETRACHOLORIDE
Permissible Exposure Limit
10 ppm OSHA PEL
25 ppm OSHA Ceiling Concentration
5 ppm ACGIH TLV

Carbon Tetrachloride is a colorless liquid with a characteristic ether-like odor. Carbon tetrachloride is reasonably anticipated to be a human carcinogen. Symptoms of short term exposure to high vapor concentration include: Irritation of the eyes, skin; central nervous system depression; nausea, vomiting; liver, kidney injury; drowsiness, dizziness, incoordination.

CHLOROFORM
Permissible Exposure Limit
50 ppm OSHA PEL (CEILING LIMIT)
10 ppm ACGIH TLV

Chloroform is a clear, colorless, and mobile liquid with a pleasant, sweet odor. Air odor threshold concentrations ranging from 85 to 307 parts per million (ppm) parts of air have been reported for chloroform. Inhalation of chloroform causes signs and symptoms of central nervous system depression. Other symptoms may include digestive upset, mental dullness, and dizziness. Chloroform vapors may irritate the eyes and skin.

TRICHLOROETHYLENE
Permissible Exposure Limit
100 ppm OSHA PEL
200 ppm OSHA STEL
50 ppm ACGIH TLV

Trichloroethylene is a clear, colorless volatile liquid with a sweet, chloroform-like odor. Trichloroethylene is a narcotic, an irritant to the skin and mucous membranes, a liver and kidney toxin and is believed by NIOSH to be a potential human carcinogen. Workers exposed to concentrations averaging 10 ppm complained of headache, dizziness and sleepiness. Prolonged inhalation of vapors may result in central nervous system depression, nausea, narcosis, headache and nausea. Skin contact may cause drying, redness and irritation. Chronic exposure to trichloroethylene vapors may cause kidney and liver damage.

PERCHLOROETHYLENE
Permissible Exposure Limit
100 ppm OSHA PEL
200 ppm OSHA STEL
25 ppm ACGIH TLV

Perchloroethylene (tetrachloroethylene) is a clear, colorless, volatile liquid with an ether-like odor. NIOSH considers perchloroethylene to be a potential human carcinogen. Tetrachloroethylene causes central nervous system depression and liver damage. Defatting action of the skin can lead to dermatitis. Unconsciousness, dizziness, headache, vertigo and light narcosis have occurred in many instances after occupational exposure.

1,2-DICHLOROETHYLENE
Permissible Exposure Limit
200 ppm OSHA PEL

1,2-Dichloroethylene is a colorless liquid with a sweet, pleasant odor. Skin contact may irritate skin and mucous membranes. It is a highly narcotic compound. Symptoms of acute exposure include central nervous system depression, nausea, vomiting, weakness and tremor.

VINYL CHLORIDE
Permissible Exposure Limit
1 ppm OSHA PEL
0.5 ppm OSHA Action Level

Vinyl chloride is regulated by OSHA as an occupational carcinogen. Acute exposure to high concentrations of vinyl chloride can cause central nervous system effects, headache, dizziness, drowsiness, incoordination and confusion. Chronic exposure has been shown to cause cancer.

1,1,1-TRICHLOROETHANE
Permissible Exposure Limit
350 ppm OSHA PEL

1,1,1-trichloroethane is a colorless liquid with a chloroform-like odor. Skin contact may irritate the skin and mucous membranes. It is a central nervous system depressant. Excessive absorption through the lungs or gastrointestinal tract produces CNS depression. Mild liver and kidney dysfunction has also been reported.

6.2 Physical Hazards

Activities to be performed on site will involve drilling equipment and materials. Personnel should be aware that as personal protective equipment increases, dexterity and visibility may be impacted and performing some tasks may be more difficult. Drilling personnel must secure long hair and tape all loose protective clothing to avoid entanglement in rotating equipment.

Before drilling activity proceeds on this project site, ***underground utilities must be located and marked***. Other drilling safety precautions to be observed during this assessment include the following:

The following general site precautions will be exercised by all drilling crew personnel:

- All drill crews shall consist of at least two persons.
- All personnel working around drill rigs will be familiarized with emergency shut-down procedures and the position of "kill" switches.
- Daily inspection of all ropes, cables and moving parts is mandatory.
- A first aid kit and fire extinguisher will be immediately available at all times.
- No loose fitting clothing, jewelry or unsecured long hair is permitted near the rig.
- Keep hands and feet away from all moving parts while drilling is in progress. Shovel auger cuttings with long handled shovel DO NOT use hands or feet.
- No drilling is permitted during impending electrical storms, tornadoes or when rain or icy conditions create slippery/hazardous conditions.

- Keep all parts of drill rigs at least 10 feet from all overhead power lines; use spotters to help rig operator maneuver vehicle.

The daily site inspection checklist will be completed by the lead driller prior to commencement of soil boring during each day of site activity and at any time a new boring location presents additional site hazards.

Drilling Site Inspection Checklist

Completed by: _____ Date:_____

Item	Drilling Site Inspection Form	Yes	No	N/A
1	Has weather forecast been checked for thunder storm activity?			
2	Has conformation been received that there are no known conflicts with underground utilities			
3	Is drilling equipment located a safe distance from underground utilities?			
4	Is drilling equipment located a safe distance from overhead electrical lines?			
5	Have emergency drill rig engine cut-off switches been checked?			
6	When working on shoulder or on road, are traffic control devices in-place?			
7	Are medical first aid kits on-site?			
8	Are fire extinguishers in required locations?			
9	Do all drill crew members have prescribed personal safety equipment - hard hat, steel toed boots, safety vest, ear plugs, and gloves?			
10	Is drill crew clothing free of loose clothing, shoe laces and clothing tie-strings secured, and jewelry removed to avoid being entangled in moving equipment?			
11	Is drilling equipment set-up on stable ground?			
12	Are out-riggers properly deployed and supported, on cribbing if appropriate?			
13	Is insulation in-place to protect against accidental contact with hot surfaces?			
14	Are hydraulic hoses free of defects and without leaks at connections?			
15	Are cables, fittings, wenches in good working order?			
16	Are safety lashings in-place on hose connections to pipes?			
17	Is safety or closed shackle (clevis) available and ready for use to lift augers/drill tools? (Open hooks are NOT permitted)			
18	Do drill rig operators verbally alert employees and visually ensure employees are clear from dangerous parts of the equipment before starting or engaging equipment?			
19	Are drilling fluids controlled to prevent slippery surfaces?			
20	During fueling or servicing drill equipment, is the drill rig motor stopped?			
21	Are only qualified drilling equipment operators operating drilling equipment?			

6.3 Biological Hazards

Biological hazards may include ticks, fleas, mosquitoes, wasps, spiders or other pests; poisonous plants (poison ivy, poison oak); snakes; thorny bushes and trees; and medical waste.

West Nile virus is primarily spread through the bite of an infected mosquito (usually a Culex species). Mosquitoes pick up the virus when they feed on infected birds. The virus must then circulate in the mosquito for a few days before they are capable of transmitting the infection to animals or humans while biting. The virus is found in the salivary gland of the mosquito. During feeding, the virus may be injected into a human or animal where it may multiply and possibly cause disease.

Most persons who are infected with West Nile virus will have no noticeable symptoms, or have an illness syndrome called “West Nile Fever” lasting 2-10 days. Common symptoms of West Nile Fever include headache, fever, and extreme muscle weakness, occasionally accompanied by vomiting or skin rashes. In some cases, West Nile virus infection will cause severe neurologic disease such as meningitis, paralysis, or encephalitis (swelling and inflammation of the brain).

Symptoms of West Nile meningitis or encephalitis may be intense headache, dizziness, stiff neck, marked weakness, muscle tremors, disorientation, mental confusion, or convulsions.

Workers should protect themselves from mosquito bites by applying insect repellent to exposed skin. Generally, the more active ingredient a repellent contains, the longer it can protect from mosquito bites. A higher percentage of active ingredient in a repellent does not mean that protection is better—just that it will last longer. Choose a repellent that provides protection for the amount of time that you will be outdoors. Repellents may irritate the eyes and mouth. Whenever an insecticide or insect repellent is used, workers must read and follow the manufacturer's DIRECTIONS FOR USE, as printed on the product.

Insect repellent containing diethyltoluamide (DEET) can be sprayed on skin or clothing to provide protection from mosquitoes. A repellent containing permethrin can also be sprayed on clothing. Repellents containing permethrin should not be applied directly to exposed skin.
Workers should wear long-sleeved shirts and long pants whenever outdoors.

Workers should consider staying indoors at dawn, dusk, and in the early evening,
which are peak mosquito biting times. Note: Vitamin B and "ultrasonic" devices are NOT effective in preventing mosquito bites.

Tick borne diseases

Lyme Disease, Ehrlichiosis, Tularemia, Southern Tick-Associated Rash Illness (STARI), and Rocky Mountain Spotted Fever (RMSF) are diseases transmitted by ticks and may occur throughout the United States during spring, summer, and fall.

Lyme Disease is a potentially serious disease caused by the bacteria Borrelia burgdorferi. Humans can become infected following the bite of an infected deer tick also called the black legged tick (see figure below). Persons bitten by ticks carrying Lyme Disease may have symptoms such as a rash or a peculiar red spot (Bulls Eye) that expands outward in a circular manner (see photo below). Headaches, weakness, fever, a stiff neck, swelling and pain in the joints, and eventually, arthritis may also occur. The primary symptom of RMSF is the sudden appearance of a moderate to high fever. The fever may persist for two to three weeks. A severe headache, deep muscle pain and chills may also occur. A rash will appear on the hands and feet on about the third day and eventually spread to all parts of the body (see photo on the following page). RMSF may cause death if untreated. Ehrlichiosis refers to a disease caused by the bacteria Ehrlichia from the bite of the Lone Star Tick (see figure below). Symptoms of ehrlichiosis will generally include a sudden onset of fever, chills, headache, myalgia, and fatigue within 10 to 15 days following a tick bite. The symptoms of ehrlichiosis are similar to RMSF; however, a rash occurs less often. Other symptoms include nausea, vomiting, abdominal pain, and loss of appetite.

Tularemia is a disease caused by the bacteria Francisella tuarensis. In Oklahomathe ticks commonly associated with Tularemia are the Dog Tick and the Lone Star Tick (see figures below). Symptoms of Tularemia are high fever, chills, fatigue, general body aches, headache, and nausea. Tularemia was once known as “Rabbit Fever”. Southern Tick-Associated Rash Illness (STARI) is an illness that is indistinguishable from the early stages of Lyme Disease. These symptoms include the “bull’s eye” rash commonly associated with Lyme Disease. The cause of the disease is not fully understood, but it appears to be associated with the bite of the Lone Star Tick. Lyme Disease is associated with the bite of the Deer Tick.

Early diagnosis of tick borne diseases is essential to treatment of the disease. The following photographs show common symptoms one may develop. Insect repellent, containing diethyltoluamide (DEET), should be used in tick infested areas, and pants legs should be tucked into boots. Another option is to spray clothing with a repellent containing permethrin. Repellents containing permethrin should not be applied directly to exposed skin. Additionally, workers should search the entire body every three or four hours for attached ticks. Ticks should be removed promptly and carefully without crushing. A gentle and steady pulling action should be used to avoid leaving the head or mouth parts in the skin.

Folklore remedies, such as the use of petroleum jelly or hot matches, do little to encourage a tick to detach from skin. In fact, they may make matters worse by irritating the tick and stimulating it to release additional saliva or regurgitate gut contents, increasing the chances of transmitting the pathogen. These methods of tick removal should be avoided. A number of tick removal devices have been marketed, but none are better than a plain set of fine tipped tweezers.

Tick Bite Prevention Tips

Avoiding tick bites is the best way to reduce your risk of developing a tick-borne illness. The following personal tick bite prevention tips are recommended when exposure to a wooded or tick infested area is likely:

- Wear light colored clothing to make ticks easier to see.
- Wear long-sleeved shirts and long pants tucked into socks to deprive ticks of attachment sites.
- Check for ticks every three to four hours; particularly along waistbands, in the armpits, and groin area. Don't forget the back and the scalp!
- Use a tick repellent with DEET on skin and clothing according to the directions.
- Use a tick repellent with permethrin ON CLOTHING ONLY as directed by the label.

Stinging Insects

To avoid stinging insects, it is important to learn what they look like and where they live. Most sting reactions are caused by five types of insects: yellow jackets, honeybees, paper wasps, hornets and fire ants. Yellow jackets are black with yellow markings, and are found in various climates. Their nests, which are made of a paper-Mache material, are usually located underground, but can sometimes be found in the walls of frame buildings, cracks in masonry or woodpiles.

Honeybees have a rounded, "fuzzy" body with dark brown coloring and yellow markings. Upon stinging, the honeybee usually leaves its barbed stinger in its victim; the bee dies as a result. Honeybees are non-aggressive and will only sting when provoked. However, Africanized honeybees, or so-called "killer bees" found in the southwestern United States and South and Central America, are more aggressive and may sting in swarms. Domesticated honeybees live in man-made hives, while wild honeybees live in colonies or "honeycombs" in hollow trees or cavities of buildings. Africanized honeybees may nest in holes in building frames, between fence posts, in old tires or holes in the ground, or other partially protected sites. Paper wasps' slender, elongated bodies are black, brown, or red with yellow markings. Their nests are also

made of a paper-like material that forms a circular comb of cells which opens downward. The nests are often located under eaves, behind shutters, or in shrubs or woodpiles.

Hornets are black or brown with white, orange or yellow markings and are usually larger than yellow jackets. Their nests are gray or brown, football-shaped, and made of a paper material similar to that of yellow jackets' nests. Hornets' nests are usually found high above ground on branches of trees, in shrubbery, on gables or in tree hollows.

Fire ants are reddish brown to black stinging insects related to bees and wasps. They build nests of dirt in the ground that may be quite tall (18 inches) in the right kinds of soil. Fire ants may attack with little warning: after firmly grasping the victim's skin with its jaws, the fire ant arches its back as it inserts its rear stinger into the skin. It then pivots at the head and may inflict multiple stings in a circular pattern. Fire ant venom often causes an immediate burning sensation.

Preventing stings

Personnel should stay out of the “territory” of the stinging insects' nests as much as possible. These insects are most likely to sting if their homes are disturbed, so it is important to have hives and nests around work areas destroyed. Since this activity can be dangerous, a trained exterminator should be hired.

If any flying stinging insects are encountered, workers should remain calm and quiet, and move slowly away from them. Many stinging insects are foraging for food. It is important to not look or smell like a flower—avoid brightly colored clothing and perfume when outdoors. Because the smell of food attracts insects, be careful when eating, or drinking sweet drinks like soda or juice outdoors. Keep food and beverages covered until consumed. Workers should avoid loose-fitting garments that can trap insects between material and skin.

Treating stings

If stung by a honeybee that has left its stinger (and attached venom sac) in your skin, remove the stinger within 30 seconds to avoid receiving more venom. A quick scrape of a fingernail removes the stinger and sac. Squeezing the sac should be avoided—this forces more venom through the stinger and into the skin. Hornets, wasps, and yellow jackets do not usually leave their stingers. Try to remain calm, and brush these insects from the skin promptly with deliberate movements to prevent additional stings. Then, quietly and immediately leave the area.

If stung by fire ants, carefully brush them off to prevent repeated stings, and leave the area. Fire ant stings usually result in the development of a blister about 24 hours after the sting. The

material in this will become cloudy and appear to be pustular. IT IS NOT! Fire ant venom kills bacteria, this is just dead tissue and should be left alone. It will dry and heal within the next 7 – 10 days. If the blister is opened it must be monitored for secondary bacterial infection. Diabetics and others with circulatory disorders, including varicose veins and phlebitis, can be particularly at risk for complications, and should see a physician to monitor their condition after being stung. Up to 50% of patients develop large local reactions at the site of fire ant stings—swelling may last for several days and may be accompanied by itching, redness and pain.

Use topical steroid ointments or oral antihistamines to relieve itching. See your doctor if swelling progresses or if the sting site seems infected.

Poisonous Plants

Poison ivy, poison oak or poison sumac may be present in the work area. Personnel should be alerted to the presence of these plants, and instructed on methods to prevent exposure.

The main control is to avoid contact with the plant, cover arms and hands, and use Ivy Block barrier cream on exposed skin. Particular attention must be given to avoiding skin contact with objects or protective clothing that have touched the plants. Treat every surface that may have touched the plant as contaminated, and practice contamination avoidance. If skin contact is made, the area should be washed immediately with Ivy Wipes or soap and water, and observed for signs of reddening.

Snakes

The possibility of encountering snakes exists, specifically for personnel working in heavily wooded/vegetated areas. Avoid walking in areas where snakes may nest or hide. When walking, always look ahead for signs of snakes. Employees should make as much noise as possible when approaching a possible snake area to give snakes time to leave. Use a long handled shovel, heavy equipment or other tools when moving or lifting objects that could be used by snakes as cover. Never reach under or behind objects or into other areas where snakes may hide. Look before placing your hands or feet anywhere, and do not put your hands or feet into places you cannot see. Avoid walking alone in snake-infested areas. Do not go out of your way to disturb or kill a snake. Avoid snakes – living and dead. Even dead snakes can bite reflexively.

If an employee is bitten by a snake the following actions are recommended: An attempt should be made to identify the snake. Do not try and capture or kill the snake.

The victim should be transported to the nearest hospital within 30 minutes. First aid consists of washing the area around the wound to remove any unabsorbed venom. Keep the victim calm and limit the victim's physical activity. While limiting movement of the bitten body part, keep the bitten area at the level of the heart.
Remove all constricting clothing or jewelry from the bite site because swelling may occur. Remove shoes if bitten on the leg.

- Do not apply a tourniquet.
- Clean the wound if possible.
- Do not pack wound in ice or apply heat.
- Do not give the victim a sedative or alcohol.
- Do not waste time capturing or killing the snake.
- Do not cut into the bite area; you might damage important nerves, tissues or muscles

7.0 ACCIDENT PREVENTION

7.1 Traffic Control

General

Worksites confront motorists with a situation they do not expect, cannot anticipate and find confusing. They also tend to create hazards with which the driver can collide. Worksites distract motorist's attention from the driving tasks and expose workers to oncoming traffic.

The National Highway Traffic Safety Administration estimates that 750 fatalities occur in work zones each year, with workers accounting for one in four of the deaths. Worksite fatalities are accompanied annually by tens of thousands of disabling injuries. Some inadequate traffic control measures that have led to worksite traffic accidents include:

- Inadequate advance warning
- Inadequate and inappropriate signs and messages
- Confusing messages
- Inadequate guidance through the work zone
- Conflicting pavement markings
- Unprotected hazard such as shoulder drop offs

Policy

Whenever project sites under Terracon control will disrupt vehicle traffic or expose Terracon personnel to the hazards of vehicle traffic, (i.e., work on an active roadway, including shoulders) adequate traffic control measures must be implemented.

Terracon's preferred method for implementing traffic control is to request that clients assume this responsibility. Where clients refuse to assume responsibility, Terracon will attempt to sub-contract the service to a reputable traffic control firm. Terracon personnel with no training or experience in traffic flagging or the placement of traffic control devices such as signs, barricades or flashers are prohibited from engaging in traffic control operations unless directed by a trained and experienced individual.

Project-Specific Traffic Control Requirements

The Project Manager will be primarily responsible for assuring that traffic control measures utilized on the various compressor station project sites (where applicable) are in accordance with Department of Transportation requirements. All Terracon personnel working within 10 feet of an active roadway will wear ANSI Class III traffic safety vests as the outermost garment. All Terracon field personnel will participate in site traffic control briefings with affected field representatives where requested. If any Terracon employee is concerned about the adequacy of traffic control measures while engaging in drilling activities on this project, they should
Standard safe operating procedures for drill rig operation are included as an appendix to this Plan. Other physical hazards which may be present on this project site include:

7.2 Other Physical Hazards/Precautions

Back injuries due to improper lifting - Use proper lifting techniques. Lift with the legs, not the back. Keep loads close to the body and avoid twisting. Loads heavier than 50 pounds (lbs) require a second person or mechanical device for lifting. Use mechanical devices such as drum dollies, hand trucks, and tool hoists (for lifting augers) to lift or move heavy loads whenever possible.

Ergonomic Stress - Lift carefully with load close to body with the legs taking most of the weight. Get help with lifts greater than 40 lbs. When working with a heavy tool or object, keep legs under the load and do not overreach or twist to the side. Reposition body to be more square to the load and work. Push loads, rather than pull, whenever feasible. Do not persist with lifting when the load is too heavy. Use a mechanical lifting aid or have a coworker assist with the lift. Rotate repetitive tasks to avoid soft-tissue fatigue.

Falls From Elevated Surfaces - Protect employees from falling off surfaces that have a side or an edge that is 6 ft or more above a lower level. Provide a safety harness and shock-absorbing lifeline or adequate fall protection where applicable. Employees must wear them when working 6 ft or higher above the platform or main work deck. Install either a guardrail system or fall arrest system that conforms to 29 CFR 1926.502 (d) and is approved by the American National Standards Institute.

Vehicles - Obey all site traffic signs and speed limits. Seat belts must be functional and in use during operation of any site vehicles (including rentals). Operator shall regularly inspect the vehicle for defective parts, such as brakes, controls, motor, chassis and drives. Always be aware and stay alert to traffic around the work area.

Inclement Weather – The project may be shutdown by the DSO during the following inclement weather conditions: poor visibility; precipitation severe enough to impair safe movement or travel; lightning in the immediate area; steady winds in excess of 40 mph; or, other conditions as determined by the DSO or Corporate Safety and Health Manager. Work will resume when the conditions are deemed safe by the DSO.

Noise - Wear hearing protection when speech becomes difficult to understand at a distance of 10 ft and while standing within 20 to 25 ft from heavy equipment, pneumatic power tools, steam cleaners, and other equipment in operation that can generate more than 85 decibels (A-weighted scale) (dBA). Label equipment as a noise hazard if it generates, or is capable of generating, more than 85 dBA.

Slips, Trips, and Falls - Clear work area of obstructions and debris before setting up. Alter work areas as necessary to provide a safe, reasonably level area. All walking and working surfaces shall continually be inspected and maintained to be free of slip, trip, and fall hazards. Keep platforms, stairs, and immediate work areas clear. Do not allow oil, grease, or excessive mud to accumulate in these areas. Eliminate slip, trip, and fall hazards or identify them clearly with caution tape, barricades, or equivalent means. Store loose or light material and debris in designated areas or containers. Secure tools, materials, and equipment subject to displacement or falling.

Domestic and Wild Animals

Personnel may encounter wildlife on sites of proposed geotechnical investigation. Terracon personnel must be aware of the potential for encountering wildlife such as deer, snakes and poisonous insects on these project sites. Although less common in OK and TX, bobcats and feral hogs could also be encountered. It is improable that personnel will encounter larger mammals such as bears or mountain lions at the proposed project sites.

- Drilling activities generate mechanical noises which will tend to drive off wildlife in the area. During quiet periods, making noise such as whistling, talking, breaking branches can help deter any wildlife in the area.
- First-aid training is mandatory for all field drilling personnel.
- Wear hi-vis vest/reflective coveralls, bright clothing and make yourself as visible as possible.
- Snake bite proof leggings shall be worn at all times while working in wooded field locations with high grass or overgrown vegetation. The leggings shall be a minimum of knee high in length.

Rail Crossing Safety

An uncontrolled railway crossing is considered any railway crossing at which traffic is not controlled by an electrical or mechanical traffic control device, a crossing gate or a flag person. Multiple uncontrolled railway crossings may be encountered during travel to and from remote work sites. When an uncontrolled railway crossing with two or more tracks is encountered the following procedure must be followed:

- Stop the vehicle

- Place the vehicle in park or neutral for manual transmission.
- Turn the ignition off.
- Exit the vehicle and approach the railroad track with caution.
- Look and listen in both directions for oncoming train
- If no train is approaching reenter the vehicle and proceed across tracks.

8.0 AIR MONITORING AND SITE ACTION LEVELS

In the event soil contamination is encountered, this air monitoring protocol is designed to prevent personnel exposure to airborne contaminants in excess of established permissible exposure limits. The results of field air monitoring will be used to determine the continued adequacy of initial personal protective equipment.

Air monitoring equipment required for petroleum contaminated sites will include the following:

- **Photoionization Detector**

Task Leader(s) will be knowledgeable in the operation of the photoionization detector. A manual on the operation of the PID and the appropriate calibration kit will be mobilized to the project site with the instrument. Photoionization detectors will be calibrated under field conditions *each day* prior to use. Task Leaders are instructed to consult the manufacturer's specifications for appropriate calibration gas and calibration techniques.

A photoionization detector (PID) will be used to determine approximate hydrocarbon vapor concentrations in the BREATHING ZONE of site personnel. Continuous breathing zone air monitoring will be conducted during initial phases of intrusive activities (i.e., boring, excavation). If PID readings are less than 10 ppm, monitoring may be conducted at intervals of 10 minutes. If initial PID readings exceed 10 ppm, or if hydrocarbon odors become evident upon during auger advancement, continuous breathing zone air monitoring will be conducted..

If sustained PID readings in the breathing zone exceed 25 ppm, personnel will upgrade to respiratory protection as outlined below. Personnel will remain in air purifying respirators until the photoionization detector readings in the breathing zone have fallen and stabilized below 25 ppm.

8.1 Site Action Levels

Instrument	Level D/D Mod	Level C	Site Evacuation
PID	**< 25 ppm**	**> 25 ppm**	**> 300 ppm**

The Action Levels indicated above are for air in the breathing zone and NOT applicable to vapor above containerized soil samples. The Action Levels are established to prevent exposure to airborne petroleum hydrocarbon vapors in excess of established exposure limits. Although the

Action Levels indicated for Site Evacuation are within the protective capacity of the respirator cartridges specified below, personnel will evacuate to the UPWIND side of the site if the continuous breathing zone vapor concentrations exceed these limits. The SSO will contact the Corporate Safety and Health Manager for discussion and re-evaluation of personal protective equipment and air monitoring requirements if airborne contamination exceeds Site Evacuation Action Levels. In the event that site evacuation is required, a modification of this safety and health plan will be issued with contingencies for combustible gas monitoring and upgrading to Level B personal protective equipment.

9.0 PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

Project activities may be performed in LEVEL D personal protective equipment to include:

- Standard Work Uniform
- Hard Hat
- Safety Foot Wear (ANSI Z-41, lace up, over-the-ankle)
- Abrasion Resistant/Impermeable Gloves of Heavy PVC or Neoprene Rubber
- Safety Eye Wear (ANSI Z-87 approved)

10.0 SITE CONTROL

As permitted by site topography, the area within a 20 foot radius of each boring location will be considered the work zone. Only those personnel designated by the Project Manager/DSO are allowed to enter a project work zone. Where practical, or where there is considered necessary to prevent public injury, temporary signs or barricade fencing will be established to define the work zone.

If unauthorized personnel attempt to enter a work zone, the DSO will verbally inform the individual(s) to leave the project site . If unauthorized individuals refuse to leave the work zone or are considered to in danger or pose danger to project personnel, the DSO will cease project activities (i.e., shut down gas van, drill rigs, excavation equipment, etc.) and notify the local police of the situation. Site activities will only resume when unauthorized personnel have vacated the project site.

11.0 SPILL CONTAINMENT & DECONTAMINATION

11.1 Personal Hygiene

- Smoking, drinking, eating, or tobacco chewing should be avoided while in the work area.

- It is recommended that site personnel will wash face, hands and forearms as soon as possible upon completion of activities. If not otherwise available on site, an adequate supply of soap and water should be mobilized to the site prior to beginning intrusive activities.

11.2. Equipment Cleaning

- Where required by site conditions, collected cleaning fluids will be containerized and properly disposed.

- If chemical cleaning fluids (i.e., acetone, methanol) are required for project equipment, specific cleaning procedures will be outlined in the site-specific Safety and Health Plan.

- If potential biological contaminants are present at the project site (i.e., fecal coliform) reusable equipment will be cleaned in accordance with B.1. above, followed by a wash down with a 1% solution of household bleach and water, followed by a clean water final rinse.

11.3 Spill Containment

- Spills on geotechnical boring sites are possible due to leaks or spillage of fuels and lubricants contained in drilling equipment. Terracon personnel should mobilize a minimum of 50 pounds of absorbent material to each site to assist in rapid containment of small spills. The following actions will be taken in the event of a spill or release of petroleum hydrocarbons:

- First aid will be administered to injured or contaminated personnel.

- Terracon site personnel will act to prevent members of the general public from coming into contact with spilled materials by alerting other nearby persons and by obtaining assistance, as appropriate, from other site personnel, contract service or government agency.

- Stop the spill at the source. Without taking unnecessary risk, personnel will attempt to stop the spill at the source. This may involve activities such as closing a valve or temporarily sealing a hole with a plug.

- Prevent the spill from spreading off site through use of absorbent materials, soils, etc.

- Notify the Project Manager and Corporate Safety and Health Manager. Report the nature and quantity of spilled material, primary containment measures, personnel injuries and potentially life-threatening hazards.

- Notify the owner or owner's representative.

- Spilled materials will be contained and absorbed using absorbent materials such as oil dry, "PowerSorb" or equivalent materials. Absorbed materials will be placed in DOT approved 55-gallon steel drums pending proper disposal.

12.0 EMERGENCY RESPONSE PROCEDURES

The Project Manager is responsible for obtaining and recording the following emergency information prior to site mobilization. A site map and emergency telephone numbers may be attached in lieu of completing this section. A cellular telephone will be mobilized to the project site during each day of site activity.

EMERGENCY CONTACTS/DIRECTIONS TO MEDICAL FACILITY

Location of Nearest Telephone: Allen McColl's Cell Phone (in pants pocket) / Mill # 1 Office landline (approximately 100 feet from work zone)

Nearest Hospital/Clinic: Wayne Memorial Hospital Phone: 919-736-1110

Estimated Drive Time: 10 minutes

Directions From Site: (Attach a Site Diagram as an Appendix to this Plan) See attached map.

Ambulance:	**911**
WorkCare (Managed Care Provider)	888-449-7787
Fire Department:	**911**
Police:	**911**
Poison Control Center:	**800-222-1222**
Project Manager:	**Allen McColl - 910-474-6081**
Safety and Health Manager:	**Gary Ganson – 913-599-6886**
Client Contact:	**John Pike – 919-778-3130**

12.1 Personal Injury

In the event of non-life threatening injuries such as minor cuts, burns, exhaustion, heat cramps, insect stings, etc., the affected employee will be removed to a safe location and appropriate first aid measures should be rendered. It is the responsibility of every employee to report all unsafe acts and incidents (equipment or facility damages as well as injury accidents) to their direct supervisor as soon as possible. Personnel who incur injuries not requiring immediate medical attention are instructed to call WorkCare at 888-449-7787. The affected supervisor will complete an Accident/Injury Investigation form within 48 hours of the incident, and forward it to their home office or enter it directly into Terracon's Automated Claims Management System. Details will be shared with the client and/or contractor as may be required by contractual agreement. A root cause analysis will be prepared by the affected Office Manager. All reports must include written recommendations of actions the office will take to prevent a recurrence of the incident.

Any Terracon employee or Terracon sub-contractor employee who performs in an unsafe manner will be reprimanded by the Site Safety Coordinator or Project Safety Coordinator. Repeat occurrences of unsafe acts will be subject to disciplinary action in accordance with Terracon policy.

For more serious injuries the Drilling Safety Officer or designee will summon an ambulance to the project site. No attempt will be made by Terracon personnel to move the victim, without the aid and/or instructions of qualified medical personnel. In the absence of toxic gases or vapors, the ambulance will be directed to the affected employee. If site conditions warrant and as time permits, the wheels of the ambulance will be decontaminated with high pressure wash.

If rescuer(s) assess that the victim cannot be removed without a stretcher or other specialized equipment, the victim will be removed at the earliest possible moment by appropriately attired Terracon personnel with the direction and/or assistance of qualified medical response personnel. The injured employee will be immediately decontaminated and transported to the nearest medical facility. A crew member designated by the DSO will inform the ambulance crew of known site contaminants (if any) and will provide assistance with decontamination if required.

12.2 Heat Stress

Whenever ambient temperature exceeds 70^{o}F and personal protective equipment requirements are Level D through Level C, the following heat stress monitoring and preventive measures will be implemented. The use of stimulants and alcoholic beverages in off hours will be discouraged.

At least two gallons of cool water or sports beverage will be available for each field employee during each day of site activity. The designated Drilling Safety Officer and one designee will observe personnel for signs of heat stress (excessive perspiration, flushed skin, nausea, etc.).

1) Have at least two gallons of cool water (or sports beverage) available for each field employee during each day of site activity. Drinking water for site personnel will be considered an integral component of safety equipment mobilized to the site.

2) The designated Site Safety and Health Officer and one designee will observe personnel for signs of heat stress (excessive perspiration, flushed skin, nausea, etc.). If such signs are observed, affected workers will be required to leave the Contaminant Zone, loosen protective clothing and rest. During the rest period, affected personnel will drink at least one 8-oz. glass of cool water. Pulse will be checked at the beginning of the rest period. Personnel will not return to work until pulse rate is less than 90 beats/min.

ACKNOWLEDGMENT OF INSTRUCTION

PROJECT NAME: Goldsboro Milling – Mill # 1

TERRACON JOB #: 72137029

I understand that this project involves advancement of soil borings to depths of up to 50 feet and the collection of soil samples for physical testing. I understand that there are no known or chemical contaminants in soils at this project site. I further understand that if evidence of chemical contamination is encountered I am to discontinue site activities, evacuate to the upwind side of the boring and contact the Project Manager and/or the Terracon Safety and Health Manager for discussion and re-evaluation of project safety and health requirements. I have read this Safety and Health Plan and have received instructions regarding for safe work practices and personal protective equipment requirements.

Name (Please Print)	Signature	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

PERSONAL PROTECTIVE EQUIPMENT UTILIZED:

_XX_ LEVEL D ___ LEVEL D MOD. (Stand-By)

Safety briefing performed by: _____ Date:_____

STANDARD SAFE OPERATING PROCEDURES FOR DRILL RIG SAFETY

I. POLICY

Drilling operations will be conducted with personal and public safety as a primary objective. Terracon drill rig operators and their helpers will abide by the safety procedures contained in this section. **The policies and procedures contained herein will be utilized in conducting a safety orientation for newly hired drill rig operators and helpers.**

II. PRE-MOBILIZATION INSPECTION

A. Drill rigs will be inspected each day prior to start-up. The rigs will be checked for structural damage, loose bolts/nuts, loose or missing guards or protective covers, damaged hoses, fluid leaks and frayed ropes and cables.

B. Each drill rig will be equipped with a serviceable fire extinguisher (10 B/C, minimum), a fully stocked portable first aid kit and highway warning triangles (2) or flares.

C. The daily vehicle inspection required by DOT regulations (horn, brakes, lights, etc.) will be performed each day prior to operation. Daily pre-trip vehicle inspections will be recorded on the reverse side of the operator's "Hours of Service" log book sheet.

III. PERSONAL APPAREL/PERSONAL PROTECTIVE EQUIPMENT

A. Personal apparel worn by drill rig operators should be close fitting without straps or loose ends which may get caught on rotating rig components. Rings and jewelry should **NOT** be worn while conducting drilling activities. Long hair should be secured prior to the start of down hole operations.

B. Drill rig operators and helpers working on or around drill rigs will wear hard hats, and safety footwear (steel toe and shank per ANSI Z41.1). If prescription eyewear or sunglasses are worn, they must meet ANSI Z87.1 requirements for safety eyewear. Safety eyewear is mandatory when driving tubes or spoons.

C. Hearing protection is recommended for all personnel who operate or work within 10 feet of the drill platform, especially during hammer operations.

D. Specialized personal protective equipment may be required during drilling projects at contaminated project sites. Personal protective equipment required on contaminated sites will be specified in the site safety and health plan developed for the project.

IV. LOADING AND TRANSPORTATION SAFETY

A. Load and unload on level ground. Avoid twisting the body when handling heavy loads. Get assistance before attempting to lift overweight or awkward objects.

B. Distribute the weight of sand, grout and tools on low-boy trailers so that the center of weight is on or near the center line of the trailer and so that part of the load is transferred to the hitch of the pulling vehicle.

C. Secure all tools and supplies with load binders prior to moving rig or trailer.

D. Drill rig and tractor/trailer operators will be properly licensed and qualified per DOT requirements.

E. Drill rig or tractor/trailer operators must be familiarized with the overhead clearance, width and length of the vehicle.

F. Remain aware of overhead canopies at gas stations, toll booths, etc.

G. Use a "spotter" or guide person when backing water trucks, rigs or tractor/trailers. As a minimum, walk around large vehicles prior to backing.

V. DRILL SITE HAZARD ELIMINATION

A. Traffic control measures will be arranged for all drilling operations conducted within or immediately adjacent to active roadways. Signage, warning and/or channelizing devices will conform to the *Manual on Uniform Traffic Control Devices*. Flagging operations will be conducted only by personnel who have received training in proper traffic flagging procedures. The preferred method of traffic control will be to contract these services to a reputable traffic control service knowledgeable in local traffic control regulations. (See Terracon Traffic Control policy.)

B. Before drilling begins, clear and level the rig operation and tool storage area. Do not begin drilling on unstable ground or in areas where tree limbs or other obstructions will prevent safe tool handling.

C. All tools, supplies and materials will be suitably stored to allow for safe and convenient handling.

D. Pipe, drill rods, casing, augers, etc. will be stacked orderly on racks or sills to prevent rolling or sliding.

E. Work areas will be kept free of materials, debris and obstructions. Keep auger sections, etc. out from underfoot and at least 5 feet from operator controls.

F. Gasoline or other flammable liquids carried to the job site will be contained in approved safety cans. All such containers will be clearly labeled as to contents.

VI. OVERHEAD AND BURIED UTILITIES

A. Underground utilities must be located and marked prior to start of drilling operations. Owners of utility lines or the local utility location service must be contacted at least 48 hours prior to mobilization. Where utilities cannot be precisely located, the area should be manually probed and/or drilling should proceed SLOWLY for the first 5 feet.

B. All overhead power lines will be considered live and dangerous unless visibly grounded. NEVER lift power lines to gain access to a site.

C. Before raising the drill mast, walk completely around the rig and ensure that minimum clearance distance of 10 feet is maintained from the nearest power line.

D. Drill rigs will not be moved with the mast in the upright position.

E. If drilling must be performed less than 10 feet from overhead power lines, the local utility must be contacted.

F. If a drill rig makes contact with an overhead power line, driver and passengers should NOT touch any metallic parts or leave the vehicle.

G. If it is determined that the vehicle must be vacated before power is shut down, personnel should open doors with wooden, rubber or other non-conductive items and JUMP as far as possible from the drill rig, and hop away from the rig with feet together. Avoid touching the rig exterior when jumping free.

VII. SAFETY PROCEDURES DURING DRILLING OPERATIONS

A. No Terracon employee will be permitted to operate equipment until trained and authorized by a Terracon drilling supervisor. Unauthorized use of equipment or operation by an untrained operator is prohibited.

B. Terracon drilling supervisors will brief drill crew members on the nature of all drilling projects. On drilling projects where contaminants are known or reasonably expected to exist, site specific safety and health issues will be discussed and special requirements will be explained in a site briefing to be held by the Project Manager.

C. No Terracon drill rig will be operated with less than two crew members.

D. Drilling will be terminated during impending electrical storms, tornadoes, or when rain or icing creates a hazardous work environment.

E. "Horseplay" or practical joking near drill rigs will not be tolerated.

F. Always stabilize the drill rig with leveling jacks prior to raising the mast. Never lower the mast unless leveling jacks are down. Do not raise the leveling jack pads until the mast is completely lowered and secured.

G. Always secure or lock the mast after it is raised.

H. Do not hoist drill string over the head or feet of field personnel.

I. The rig operator will only operate the rig from the position of the controls. The operator will shut down the drill engine before leaving the operator control area.

J. If drilling must take place within an enclosed area such as a building, use exhaust hoses to direct engine exhaust out of the area.

K. The driller and the drill helper will establish a system of responsibility for drilling activities such as connecting and disconnecting auger sections and inserting/removing the auger fork. The operator must not engage the auger column until the auger fork is removed.

L. NEVER touch the auger or the power coupling during rotation. NEVER attempt to remove soil from rotating augers.

M. Use long-handled shovels to remove auger cuttings from bore hole. NEVER attempt to remove cuttings with hands or feet.

N. Stay clear of rotating augers. NEVER reach behind or around a rotating auger for any reason.

O. All unattended bore holes must be adequately covered or otherwise protected to prevent humans or animals from stepping into holes.

VIII. ROPE HOIST AND CATHEAD OPERATIONS

A. Safety eyewear, hearing protection and gloves will be worn during hammer operations.

B. Use only clean, dry, sturdy ropes. Wet or oily ropes may cause cathead to grab and forcefully hoist tools to the top of the mast.

C. Keep cathead clean and free of rust, oil and grease.

D. If a rope groove forms to a depth greater than 1/8 inch the cathead should be replaced. Notify the drilling supervisor when rope grooves are first observed.

E. If cathead does grab hoisting rope, immediately release the rope and step away from the drill rig. The operator should kill the drill engine and back away from suspended loads. Never stand under suspended loads while attempting to release the tools.

F. NEVER wrap the hoisting rope around hand, wrist or any part of the body.

G. Maintain at least 18 inches of clearance between hand and cathead drum. Remain aware that the rope will move toward the cathead as drill tools are driven into the ground.

H. Use the minimum number of rope wraps necessary to hoist the load.

I. NEVER leave rope wrapped around an unattended cathead.

IX. ROTARY AND CORE DRILLING PRECAUTIONS

A. Do not use pipe wrenches to lower drill rods into hole.

B. If a drill string is accidentally released into the hole, do not attempt to grab the falling string with your hands or a wrench.

C. Do not use bare hands to clean drilling fluids from drill rods.

D. In the event of a plugged bit or other circulation blockage, bleed off pressure before attempting to break tool joints.

E. Special precautions for AIR rotary drilling:

- Means will be established for directing flying objects downward and away from drill crew.

- Remain upwind of dusts generated during air rotary drilling. If there is continuous dust generation in the vicinity of the operator controls, operators should don a dust respirator. Hearing protection is also advised when working within 10 feet of operator controls.

X. UNANTICIPATED SOIL/GROUNDWATER CONTAMINATION

A. If drilling activities reveal visual staining of soils, unusual odors or other evidence of chemical contamination inconsistent with anticipated, natural conditions, Terracon personnel will cease activities and contact the Drilling Supervisor.

B. The Drilling Supervisor shall contact the Project Manager and the Corporate Safety and Health Manager for discussion and re-evaluation of personal protective equipment requirements.

XI. METHANE/ORGANIC VAPOR CONTAMINATION

A. Toxic Gases

1. When gas is encountered during drilling activities, the drill crew shall immediately contact the Drilling Supervisor/Project Manager.

2. The Project Manager will contact environmental project personnel at the nearest Terracon office and request analysis with an organic vapor detector and combustible gas indicator.

3. If potentially health hazardous organic vapors or gasses are detected, contact the Corporate Safety and Health Manager who will provide a site specific safety and health plan in accordance with OSHA regulations (29 CFR 1910.120). Only those personnel enrolled in both the medical surveillance and hazardous waste site training program should remain on contaminated drilling job sites.

B. Methane

1. If methane is detected, drilling activities may proceed in accordance with the following procedure:

a) Combustible gas indicator (CGI) readings will be taken at the bore hole and in the work zone during advancement of soil boring.

b) If CGI readings exceed 20% of the Lower Explosive Limit (LEL), discontinue drilling and allow the boring to vent.

c) Ban smoking within 50 feet of the drill rig and eliminate other potential ignition sources in the vicinity. Periodically monitor the bore hole and continue drilling only after CGI readings stabilize (>5 minutes, sustained) below 20% LEL.

d) If CGI readings remain at or above 20% LEL, drilling with high volume fans or potentially, bentonite drilling mud, may be initiated at the discretion of the drilling supervisor.

XII. BOREHOLE BACKFILLING AND SITE RESTORATION

A. Soil borings that are not adequately covered or backfilled pose a safety hazard to humans and livestock, and a significant potential liability to Terracon. To avoid potential injury, ALL soil borings should be backfilled as soon as practical. It is sometimes necessary to leave borings open in order to obtain 24-hour water level measurements prior to backfilling. In those instances, boreholes should be adequately covered before the drill rig moves off the boring location. Methods for adequately covering an open borehole include:

- **Minimum 12” x12” pieces of plywood or steel plate**
- **Plastic buckets filled with soil cuttings**
- **Bags of sand**

B. If materials for covering a borehole are not readily available, the borehole should be marked with high visibility barricades, traffic cones, or lath so people are aware of the safety hazard. This approach should only be used in low traffic areas and where the borehole is left open for a 24-hour period.

C. Unless otherwise directed by the Project Manager or Drilling Supervisor, ALL soil borings should be back-filled as soon as practical after the borings are completed and all required water level observations and measurements are obtained. Many states have specific regulatory requirements for backfilling soil borings. Terracon personnel should adhere to all applicable state regulations when backfilling soil borings. When regulations allow, backfill the borings with the auger cuttings. Use of tamping rods or the drill rig auger to compact the cuttings in the borehole will reduce eventual settling of fill materials. If there are not enough cuttings to completely backfill the boring, sand or other appropriate material (such as “Hole Plug”) should be used to complete the back-filling procedure.

D. When contaminated soils are encountered in geotechnical borings, the borings should be backfilled in accordance with the applicable State requirements. State regulations will generally require that a grout seal be placed to within a minimum defined distance of the ground surface. The Project Manager or Drilling Supervisor should be contacted to

determine if drilling should be halted until the contaminant can be identified and if it will be necessary to containerize the auger cuttings.

E. When borings are drilled through pavements or sidewalks, an appropriate thickness of concrete or asphalt pavement patching material should be placed to "cap" the back-filled boring. As little water as necessary should by used to mix the concrete patch material, and the finished concrete patch should be "struck off" flush with the adjacent pavement surface. Asphalt patch material should be placed in maximum 3-inch loose layers and each layer compacted. The top layer should be compacted flush with the adjacent pavement.

F. Auger cuttings MUST be removed from both streets and sidewalks. Spread cuttings in the right of way, or containerize and remove from the site. After completing the subsurface exploration and backfilling all the borings, the site should be restored to as close to its original condition as is practical prior to leaving the site. Site restoration should include:

- **Closing and locking all appropriate gates,**
- **Collecting debris, packaging materials and litter generated on the site,**
- **Spreading auger cuttings and filling ruts created and.**
- **Sweeping soils from paved areas such as streets and sidewalks.**

G. When the drilling is performed by a subcontractor, Terracon field personnel who accompany the drill rig or who return to the site to make groundwater observations should confirm that all borings have been covered or properly backfilled.

JOB HAZARD ANALYSIS

JOB/TASK: Drilling (This assumes that the user also has the Job Hazard Analysis for drilling in hand)

Project Type	Additional Potential Hazards	Control Measures/Concerns/Notes
General Underground/Overhead Power Line Precautions	Electrocution	• Remain a minimum of 20 feet (vertically and horizontally) from overhead power lines. • Use spotters when backing vehicles near powerlines. • NEVER move drill rigs with the tower in the upright position! • Utility location must be conducted as required by the law in the applicable state. DO NOT DRILL until the area has been visibly cleared. • On private property, check all available sources such as "As Built" drawings, discuss with facility personnel. If in doubt, check the utilities using subsurface equipment or hire a private utility locator
Roadway Drilling Levee Drilling	Traffic/Moving public Restricted working space	• Hire Traffic Control Subcontractor to develop and file Traffic Control Plan (TCP), to set up traffic control, and to provide flag men (if necessary). ► • Terracon must comply with TCP/wear appropriate vest/hard hat, etc. (Tear down and set up of traffic control items, e.g., cones, signs, may result in additional field time/costs). • Patch holes immediately upon completion of drilling each boring while traffic control is still in place. • Do not step out of safety zones into moving traffic. Be especially attentive when moving between holes. • If drilling on levees, carefully analyze where rig/trucks will be placed-many do not have the addition shoulder space, also side rails/safety barriers limit drivers ability to see on the bridge. Make Traffic Control Subcontractor aware of levees in the proposal stage to make sure that they include adequate protection for bridge work.
Highway Drilling	Traffic/Moving public	• Same as above but many highways have

Project Type	Additional Potential Hazards	Control Measures/Concerns/Notes
	Restricted working space Night Work	restrictions on hours of drilling, which can result in longer than expected drilling times. ► (and more days/hours for the Traffic Control Subcontractor and more expensive traffic control methods/lights). • Use Spot Lights directed at working area (not on-coming traffic-head lights are not an acceptable light source).
Railroad Drilling	Train traffic Traffic/Moving public at crossings	• Additional railroad specific safety training.► • May need to file specific safety plans for approval prior to drilling. ► • Ask the railroad for an escort for high traffic areas such as yards. ► • Place orange construction fencing around drilling area-**if previously approved by railroad**-train engineer can see from a long way off and can tell easily from a distance that the drill rig/Terracon truck are not on the tracks.
Airport Drilling	Service vehicles, baggage carts, fueling trucks and PLANES May require working at night	• Up front safety specific meetings with airport personnel. ► • Additional airport specific safety/security training.► • May need to file specific safety plans for approval prior to drilling. ► • Will require an escort except on small rural airports. ► • Specific safety control measures for night work will be dictated by the airport. ► • May encounter contamination.
Refineries/Power Plants (existing)	Buried and overhead utilities	• Up front safety specific meetings with refinery/power plant personnel. ► • Refinery/power plant specific safety training (verify that the refinery does not require HAZWOPER or similar training to be on the site).► • May need to file specific safety plans for approval prior to drilling. ► • Hand auger to 5 feet to make sure that you don't hit buried utilities, always watch for overhead hazards especially power lines. ► • May encounter contamination.
Military Bases	Poorly identified/or	• If drilling on aprons/runways see Airports

Project Type	Additional Potential Hazards	Control Measures/Concerns/Notes
	unknown utility locations	(above). • Up front meetings with base personnel for utility clearance. ► • Special restrictions in certain areas of operation, may require additional training.► • Hand auger to 5 feet to make sure that you don't hit buried utilities, always watch for overhead hazards especially power lines. ► • May encounter contamination. •
Musculoskeletal Strain/Sprain	Lifting heavy augers, bags of sand, bentonite, etc.	• Use mechanical lifting devices whenever possible • Use teamwork when lifting objects over 50 lbs. • Use proper lifting techniques, don't twist the body • Use appropriate tools to avoid excessive strain on the body. • Buy sand in 50 lb. bags
Entaglement	Getting caught on rotating augers	• Never touch a rotating auger with hands or feet. • Do not wear loose clothing that can become entangled in augers. • Keep long hair put up/covered to avoid entanglement. • NEVER use bolts or makeshift pins in auger stems •
Slip/Trip/Fall	Muddy work sites, trip hazards	• Keep work area clean and free of augers and other trip hazards • Wear safety footwear • Deon, etc away from work area to avoid mud generation • Use caution when climbing with muddy footwear
Head Injury	Falling Object Hazards, bump hazards	• Wear an ANSI specification hard hat at all times during drilling operations
Other	Driving hazards, cathead operations, slip rings, etc.	• Read and abide by driller general safety rules, attached.
Eye Injury	Flying object hazards, split spoon driving	• Always wear safety eyewear when drilling

Project Type	Additional Potential Hazards	Control Measures/Concerns/Notes
Hand Injuries	Crushing injuries, cuts, abrasions, dermatitis	• Wear abrasion resistant, impermeable gloves at all times
Head Injury	Falling Object Hazards, bump hazards	• Wear an ANSI specification hard hat at all times during drilling operations
Other	Driving hazards, cathead operations, etc.	• Read and abide by driller general safety rules, attached.
Waterborne Operations	Chance of inundation/drowning	Wear floatation device, follow safety rules for waterborne operations.
Site Specific Tasks **(Use this section to note any additional site specific hazards not identified above.)**	**Additional Site-Specific Hazards**	**Control Measures/Concerns/Notes**

I have read this daily Job Hazard Analysis anticipated for operations to be conducted. I understand that if I have any questions or identify additional site hazards I will immediately notify my Supervisor.

_____ _____
Drill Crewmember Name Date

_____ _____
Drill Crewmember Name Date

_____ _____
Drill Crewmember Name Date

Safety and Health Plan

Petroleum Hydrocarbon Contamination Anticipated

Goldsboro Milling Company's Mill # 1 Property

Goldsboro, Wayne County, North Carolina

July 24, 2013

Terracon Project No. 72137029

Prepared On Behalf of:

Goldsboro Milling Company

Goldsboro, North Carolina

Prepared by:

Terracon Consultants, Inc.

Winterville, NC

INTRODUCTION

This Site Safety and Health Plan has been developed to keep Terracon personnel engaged in environmental services on the Goldsboro Milling Company's Mill 1 Project site safe so that they leave the site uninjured at the conclusion of every work day. Safety expectations of Terracon personnel working on this site will be as follows:

- Follow the safety rules applicable to your job.
- If it is not safe, do not do it; do not have your co-worker do it either.
- If you see something that is unsafe, **speak up** immediately, there and then, to your supervisor, no matter who—no matter what.
- If you are not sure of something or do not understand something, **speak up and ask**.

All Terracon employees have the right to expect management cooperation in helping to keep them safe. Here is what you can expect from Terracon management while engaging in services at this project site:

- If you stop a task for a safety reason, we will back you up.
- If you bring up a safety concern, we will address it promptly. It will not go into a black hole.
- If there is an injury, we will conduct an incident investigation in a way that does not blame anyone—the person or people involved. The investigation will focus on learning, so that we can eliminate the next injury.

We want every employee to conduct field operations in accordance with our Incident and Injury-Free principals:

- Evaluate the hazards of the work you are getting into and control the hazards to the extent practical before engaging in site services.

- Be observant to people who are inexperienced anxious about their work and for those who are being complacent with safe work procedures. Speak up to both, out of care and concern, and help them see that doing their work safely is the right thing to do for both them and their families.

- Be open if someone speaks to you about potential unsafe behaviors or equipment, and cooperate in the spirit of getting the job done safely. Everybody deserves a future.

1.0 APPLICABILITY

This Site Safety and Health Plan has been developed for the safety of Terracon personnel engaged in field services at the Goldsboro Milling Company's Mill 1 site in Goldsboro, Wayne County, NC. The purpose of this plan is to help assure that personnel assigned to field activities on this site leave uninjured at the conclusion of every work day. Safety expectations of Terracon personnel working on this site will be as follows:

- Follow the safety rules applicable to your job.
- If it is not safe, do not do it; do not have your co-worker do it either.
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- Be open if someone speaks to you about potential unsafe behaviors or equipment, and cooperate in the spirit of getting the job done safely. Everybody deserves a future.

2.0 SAFETY AND HEALTH ADMINISTRATION

The Project Manager is ultimately responsible for ensuring that work on this project is performed in accordance with the safety and health provisions contained in this Plan. The designated Site Safety and Health Officer (SSO) will monitor compliance with this Plan during field activities. All field team members engaged in project activities will be required to sign the "Acknowledgment of Instruction" form included with this Plan. The SSO will maintain a copy of this Plan on site for the duration of project activities.

Subcontractors engaged in project activity at this site will comply applicable provisions of the Occupational Safety and Health Act of 1970, the safety and health requirements set forth in Occupational Safety and Health Administration regulation 29 CFR 1910.120, where applicable, and any applicable state, city or local safety codes. Each subcontractor will be responsible for supplying and utilizing necessary equipment required for safety precautions for the subcontractor's employees engaged in this project.

In order to reduce the potential for accidents, subcontractors will maintain an orderly and safe work area. It will the responsibility of subcontractors to provide whatever safety barricades or warning devices are deemed necessary by Terracon to prevent accidents or injury to field personnel and the general public.

Subcontractors engaged on this project site may utilize this site Safety and Health Plan for their employees, or each subcontractor may develop and utilize their own site Safety and Health Plan provided the provisions of the subcontractor's site Safety and Health Plan are at least as stringent as the requirements contained in this Plan. Decisions regarding equivalence of safety and health requirements shall be made by Terracon Project Manager and Corporate Safety and Health Manager. Adoption of this Site Safety and Health Plan by subcontract employers shall not relieve any site subcontractor for the responsibility for the health and safety of its employees.

Terracon and subcontractor task leaders (if any) will be responsible for:

- Providing subordinate personnel a copy of this Plan, and briefing them on its content.
- Enforcing the applicable provisions of this Plan.
- Inspecting and maintaining equipment in compliance with applicable federal, state or local safety regulations.
- Enforcement of corrective actions.
- Investigation of accidents or injuries.

The following individuals will be responsible for implementation and enforcement of the Plan:

TITLE	NAME	PHONE
Project Manager	Allen McColl	910-474-6081
Safety and Health Mgr.	Gary A. Ganson, CIH, CSP	913-599-6886
Site Safety Officer	Allen McColl	910-474-6081
Senior Drill Crew Member	Thomas Ammons (EHC, Inc.)	910-850-4299
Client Contact	John Pike	919-778-3130

3.0 MEDICAL SURVEILLANCE REQUIREMENTS

All Terracon personnel participating in field operations on this project will be enrolled in a health monitoring program in accordance with the provisions of OSHA 29 CFR 1910.120 and

1910.134. Each project participant must be certified by a Doctor of Medicine as fit for respirator and semi-permeable/impermeable protective equipment use. The content and frequency of physical examinations will be determined by the Consulting physician in compliance with the requirements of 29 CFR 1910.120.

Follow-up medical examinations will also be provided in the event of illness or unprotected exposure to contaminants in excess of eight-hour time weighted average permissible exposure limits.

4.0 EMPLOYEE TRAINING REQUIREMENTS

All Terracon field personnel must have completed 40-hour Hazardous Waste Operations Training per the requirements of OSHA 29 CFR 1910.120. In addition, a current 8-hour annual refresher training certificate will be required for all field personnel.

Prior to the start of site activities, the SSO will conduct a pre-project safety and health briefing for all project participants. The personnel responsible for project safety and health will be addressed, as will site history, scope of work, site control measures, emergency procedures and site communications. The briefing will address site contaminants, air monitoring protocols and results and the level of personal protective equipment to be employed for each project task.

Daily "tailgate" safety and health briefings will be presented by the SSO at the start of each work day. In addition to a general review of the proposed daily activity and safety requirements, the results of previous air monitoring and any procedural changes will be addressed. A daily tailgate safety meeting documentation form is attached as an Appendix to this plan.

5.0 RESPIRATORY PROTECTION PROGRAM

All respirators employed by Terracon personnel will be NIOSH approved. Cartridges and filters for air purifying respirators will be appropriate for the contaminant(s) of concern. Cartridge/filter selection will be made by the Terracon Corporate Safety and Health Manager. Project personnel required to wear respiratory protection will be medically cleared for respirator use, trained and successfully fit tested in accordance with OSHA 29 CFR 1910.134. Personnel required to wear respirators will demonstrate competence in donning/doffing and inspecting the equipment prior to job assignment. All project tasks requiring the use of supplied air respirators will require properly equipped backup personnel.

At a minimum, air purifying respirator cartridges will be changed daily prior to use. More frequent change of respirator cartridges may be specified based on the results of site air monitoring. Under no circumstances will air purifying respirators be used in areas deficient in oxygen (<19.5%), in areas classified as immediately dangerous to life and health (IDLH) or in areas where contaminants have not been characterized.

Respirators will be inspected and required fit checks will be performed prior to use, and any necessary repairs will be made before proceeding to the project site. Respirators will be sanitized daily after use.

6.0 SITE HISTORY/SCOPE OF SERVICES

It is anticipated that soils and groundwater at this project site may be impacted by petroleum hydrocarbons. The personal protective equipment and direct-reading air monitoring protocols specified below are designed to prevent personnel exposure to contamination in excess of permissible exposure limits.

6.1 Scope of Services

Services to be conducted on this project site will include the following (please check all that apply):

_X_ Soil/Groundwater Sampling	___ Soil Boring (Hand Auger)
_X_ Soil Boring (Drill Rig)	___ UST Removal *(requires tank removal addendum*)
___ Remedial System Installation	_X_ Monitoring Well Installation
___ Other (_____)	

7.0 HAZARD ASSESSMENT

7.1 Chemical Hazards

Soils/groundwater at this project site may be contaminated with petroleum hydrocarbons. Benzene is the most significant health hazard contained in petroleum blends and typically comprises less than 1% of regular grade gasolines. Specific health hazard information on petroleum and its most volatile aromatic constituents are provided below. Additional health-hazard information can be found in the chemical information sheets attached to this Plan.

Monitoring Well Sampling Precautions
Personnel engaged in monitoring well sampling are advised that organic vapors from contaminated groundwater can collect in wells and be displaced by bailers.

- Approach monitoring wells from the upwind side
- Remove the cap and allow the well to vent momentarily before introducing bailers.
- Keep breathing zone back and to the upwind side of wells during bailing activities.

GASOLINE

Permissible Exposure Limit

300 ppm ACGIH TLV

Gasoline is irritating to the skin, eyes and mucous membranes. Dermatitis may result from prolonged contact with the liquid. Gasoline acts as a central nervous system depressant. Exposure may cause staggering gait, slurred speech and mental confusion. Gasoline exposure may affect the liver, kidneys and spleen. Absorption of alkyl lead antiknock compounds contained in many gasolines poses an additional health concern, especially where there is prolonged skin contact.

DIESEL FUEL (No. 2-D)

Permissible Exposure Limit

100 mg/m^3 ppm ACGIH TLV (As mist/vapor)

Diesel fuel is a skin and mucous membrane irritant and a central nervous system depressant. Poisoning may affect the liver and kidneys. Skin contact may result in drying and cracking of the skin.

FUEL OIL (No. 6)

Permissible Exposure Limit

400 ppm OSHA PEL (as petroleum distillates/naphtha)

0.2 mg/m^3 OSHA PEL (Coal Tar Pitch Volatiles, "PNA's")

Fuel oil No. 6, or "Bunker Fuel", is of low volatility. It can be irritating to the eyes and skin. This substance is likely to contain polynuclear aromatic hydrocarbons (PNA's), some of which are considered carcinogenic. PNA's present a skin contact hazard. Avoid skin contact with potentially contaminated site materials.

BENZENE

Permissible Exposure Limit

1 ppm OSHA PEL
5 ppm OSHA 15 min STEL
0.5 ppm OSHA Action Level

Benzene is a central nervous system depressant and an eye and skin irritant. Poisoning may cause hemorrhages and immunosuppression. A relationship has been discovered between benzene exposure and leukemia. Benzene is regulated as an occupational carcinogen. Acute exposure may cause dizziness, excitation, weakness, headache, giddiness, breathlessness and chest constriction.

TOLUENE
Permissible Exposure Limit
20 ppm ACGIH TLV
(Skin Absorbable)

Toluene is an eye, skin and mucous membrane irritant and a central nervous system depressant. Poisoning may affect the liver and kidneys. Prolonged exposure may affect the heart and blood. The ingestion of alcoholic beverages may enhance the toxic effects of toluene. Symptoms of exposure include respiratory tract irritation, headache, dizziness and eye irritation. Toluene may be absorbed to the bloodstream via skin contact.

ETHYL BENZENE
Permissible Exposure Limit
20 ppm ACGIH TLV

Ethyl benzene is a skin, eye and mucous membrane irritant. It is moderately toxic by ingestion and slightly toxic by skin absorption. Ethyl benzene is a central nervous system depressant. Poisoning may affect the liver. Symptoms of exposure may include a sense of chest constriction and nervous disorders. Skin contact may result in first and second degree burns. The odor can be detected at 140 ppm and irritation occurs at ~200 ppm.

XYLENE
Permissible Exposure Limit
100 ppm OSHA PEL

Xylene is a mild eye and mucous membrane irritant, primary skin irritant and a central nervous system depressant. Ingestion causes severe gastrointestinal upset and creates an aspiration hazard. Chronic inhalation results in symptoms that resemble acute poisoning, but are more severe systemically.

7.2 Drilling Safety Precautions

Activities to be performed on site may involve drilling and/or hydraulic probe equipment and materials. Personnel should be aware that as personal protective equipment increases, dexterity and visibility may be impacted and performing some tasks may be more difficult. Tape all loose protective clothing to avoid entanglement in rotating equipment.

Other drilling safety precautions to be observed during this assessment include the following:

- Before drilling proceeds, underground utilities must be located and marked.

- All personnel working around drill rigs will be familiarized with emergency shut-down procedures and the position of "kill" switches.
- No loose fitting clothing, jewelry or unsecured long hair is permitted near the rig.
- Keep hands and feet away from all moving parts while drilling is in progress. Shovel auger cuttings with long handled shovel. *DO NOT* use hands or feet.
- Daily inspection of all ropes, cables and moving parts is mandatory.
- A first aid kit and fire extinguisher will be immediately available at all times.
- All drill crews must consist of at least two persons.
- No drilling is permitted during impeding electrical storms, tornadoes or when rain creates a hazardous work environment.
- A minimum horizontal and vertical clearance distance of **20 feet** must be maintained between the drill rig and overhead power lines; use spotters to help rig operator maneuver the vehicle when near overhead power lines.

7.3 Site Physical Hazards/Precautions

The physical hazards associated with intrusive site activities can include inclement weather, material handling, slips/falls etc. Some anticipated hazards and means for preventing injury from those hazards are as follows:

- **Back injuries due to improper lifting** - Use proper lifting techniques. Lift with the legs, not the back. Keep loads close to the body and avoid twisting. Loads heavier than 50 pounds (lbs.) require a second person or mechanical device for lifting. Use mechanical devices such as drum dollies, hand trucks, and tool hoists (for lifting augers) to lift or move heavy loads whenever possible.
- **Ergonomic Stress** - Lift carefully with load close to body with the legs taking most of the weight. Get help with lifts greater than 40 lbs. When working with a heavy tool or object, keep legs under the load and do not overreach or twist to the side. Reposition body to be more square to the load and work. Push loads, rather than pull, whenever feasible. Do not persist with lifting when the load is too heavy. Use a mechanical lifting aid or have a coworker assist with the lift. Rotate repetitive tasks to avoid soft-tissue fatigue.
- **Falls From Elevated Surfaces** - Protect employees from falling off surfaces that have a side or an edge that is 6 ft. or more above a lower level. Provide a safety harness and shock-absorbing lifeline or adequate fall protection where applicable. Employees must wear them when working 6 ft. or higher above the platform or main work deck. Install either a guardrail system or fall arrest system that conforms to 29 CFR 1926.502 (d) and is approved by the American National Standards Institute.

- **Vehicles** - Obey all site traffic signs and speed limits. Seat belts must be functional and in use during operation of any site vehicles (including rentals). Operator shall regularly inspect the vehicle for defective parts, such as brakes, controls, motor, chassis and drives. Always be aware and stay alert to traffic around the work area.
- **Inclement Weather** – The project may be shut down by the SSO during the following inclement weather conditions: poor visibility; precipitation severe enough to impair safe movement or travel; lightning in the immediate area; steady winds in excess of 40 mph; or, other conditions as determined by the SSO or Corporate Safety and Health Manager. Work will resume when the conditions are deemed safe by the SSO.

- **Noise** - Wear hearing protection when speech becomes difficult to understand at a distance of 10 ft. and while standing within 20 to 25 ft. from heavy equipment, pneumatic power tools, steam cleaners, and other equipment in operation that can generate more than 85 decibels (A-weighted scale) (dB).

- **Slips, Trips, and Falls** - Clear work area of obstructions and debris before setting up. Alter work areas as necessary to provide a safe, reasonably level area. All walking and working surfaces shall continually be inspected and maintained to be free of slip, trip, and fall hazards. Keep platforms, stairs, and immediate work areas clear. Do not allow oil, grease, or excessive mud to accumulate in these areas. Eliminate slip, trip, and fall hazards or identify them clearly with caution tape, barricades, or equivalent means. Store loose or light material and debris in designated areas or containers. Secure tools, materials, and equipment subject to displacement or falling.

- **Traffic Control** - If site activities interrupt the normal flow of pedestrian or vehicular traffic, barricades and warning signs which comply with the Manual on Uniform Traffic Control Devices and/or State or local ordinances will be erected around affected equipment. Safety orange work vests will be worn by personnel working within 10 feet of any active roadway. All borings or partially completed groundwater monitoring wells will be adequately covered and/or barricaded if left unattended for any period of time.

- **Confined Spaces –** No work will be conducted within confined spaces without discussion with the Corporate Safety and Health Manager and development of a confined space safety plan and permit.

7.4 Biological Hazards

Biological hazards may include ticks, fleas, mosquitoes, wasps, spiders or other pests; poisonous plants (poison ivy, poison oak); snakes; thorny bushes and trees; and medical waste.

West Nile virus is primarily spread through the bite of an infected mosquito (usually a Culex species). Mosquitoes pick up the virus when they feed on infected birds. The virus must then circulate in the mosquito for a few days before they are capable of transmitting the infection to animals or humans while biting. The virus is found in the salivary gland of the mosquito. During feeding, the virus may be injected into a human or animal where it may multiply and possibly cause disease.

Most persons who are infected with West Nile virus will have no noticeable symptoms, or have an illness syndrome called “West Nile Fever” lasting 2-10 days. Common symptoms of West Nile Fever include headache, fever, and extreme muscle weakness, occasionally accompanied by vomiting or skin rashes. In some cases, West Nile virus infection will cause severe neurologic disease such as meningitis, paralysis, or encephalitis (swelling and inflammation of the brain).

Symptoms of West Nile meningitis or encephalitis may be intense headache, dizziness, stiff neck, marked weakness, muscle tremors, disorientation, mental confusion, or convulsions.

Workers should protect themselves from mosquito bites by applying insect repellent to exposed skin. Generally, the more active ingredient a repellent contains, the longer it can protect from mosquito bites. A higher percentage of active ingredient in a repellent does not mean that protection is better—just that it will last longer. Choose a repellent that provides protection for the amount of time that you will be outdoors. Repellents may irritate the eyes and mouth. Whenever an insecticide or insect repellent is used, workers must read and follow the manufacturer's DIRECTIONS FOR USE, as printed on the product.

Insect repellent containing diethyltoluamide (DEET) can be sprayed on skin or clothing to provide protection from mosquitoes. A repellent containing permethrin can also be sprayed on clothing. Repellents containing permethrin should not be applied directly to exposed skin.
Workers should wear long-sleeved shirts and long pants whenever outdoors.

Workers should consider staying indoors at dawn, dusk, and in the early evening,
which are peak mosquito biting times. Note: Vitamin B and "ultrasonic" devices are NOT effective in preventing mosquito bites.

Tick borne diseases

Lyme Disease, Ehrlichiosis, Tularemia, Southern Tick-Associated Rash Illness (STARI), and Rocky Mountain Spotted Fever (RMSF) are diseases transmitted by ticks and may occur throughout the United States during spring, summer, and fall.

Lyme Disease is a potentially serious disease caused by the bacteria Borrelia burgdorferi. Humans can become infected following the bite of an infected deer tick also called the black legged tick (see figure below). Persons bitten by ticks carrying Lyme Disease may have symptoms such as a rash or a peculiar red spot (Bulls Eye) that expands outward in a circular manner (see photo below). Headaches, weakness, fever, a stiff neck, swelling and pain in the joints, and eventually, arthritis may also occur. The primary symptom of RMSF is the sudden appearance of a moderate to high fever. The fever may persist for two to three weeks. A severe headache, deep muscle pain and chills may also occur. A rash will appear on the hands and feet on about the third day and eventually spread to all parts of the body (see photo on the

following page). RMSF may cause death if untreated. Ehrlichiosis refers to a disease caused by the bacteria Ehrlichia from the bite of the Lone Star Tick (see figure below). Symptoms of ehrlichiosis will generally include a sudden onset of fever, chills, headache, myalgia, and fatigue within 10 to 15 days following a tick bite. The symptoms of ehrlichiosis are similar to RMSF; however, a rash occurs less often. Other symptoms include nausea, vomiting, abdominal pain, and loss of appetite.

Tularemia is a disease caused by the bacteria Francisella tuarensis. In Oklahomathe ticks commonly associated with Tularemia are the Dog Tick and the Lone Star Tick (see figures below). Symptoms of Tularemia are high fever, chills, fatigue, general body aches, headache, and nausea. Tularemia was once known as “Rabbit Fever”. Southern Tick-Associated Rash Illness (STARI) is an illness that is indistinguishable from the early stages of Lyme Disease. These symptoms include the “bull’s eye” rash commonly associated with Lyme Disease. The cause of the disease is not fully understood, but it appears to be associated with the bite of the Lone Star Tick. Lyme Disease is associated with the bite of the Deer Tick.

Early diagnosis of tick borne diseases is essential to treatment of the disease. The following photographs show common symptoms one may develop. Insect repellent, containing diethyltoluamide (DEET), should be used in tick infested areas, and pants legs should be tucked into boots. Another option is to spray clothing with a repellent containing permethrin. Repellents containing permethrin should not be applied directly to exposed skin. Additionally, workers should search the entire body every three or four hours for attached ticks. Ticks should be removed promptly and carefully without crushing. A gentle and steady pulling action should be used to avoid leaving the head or mouth parts in the skin.

Folklore remedies, such as the use of petroleum jelly or hot matches, do little to encourage a tick to detach from skin. In fact, they may make matters worse by irritating the tick and stimulating it to release additional saliva or regurgitate gut contents, increasing the chances of transmitting the pathogen. These methods of tick removal should be avoided. A number of tick removal devices have been marketed, but none are better than a plain set of fine tipped tweezers.

Tick Bite Prevention Tips

Avoiding tick bites is the best way to reduce your risk of developing a tick-borne illness. The following personal tick bite prevention tips are recommended when exposure to a wooded or tick infested area is likely:

- Wear light colored clothing to make ticks easier to see.
- Wear long-sleeved shirts and long pants tucked into socks to deprive ticks of attachment sites.
- Check for ticks every three to four hours; particularly along waistbands, in the armpits, and groin area. Don’t forget the back and the scalp!

- Use a tick repellent with DEET on skin and clothing according to the directions.
- Use a tick repellent with permethrin ON CLOTHING ONLY as directed by the label.

Stinging Insects

To avoid stinging insects, it is important to learn what they look like and where they live. Most sting reactions are caused by five types of insects: yellow jackets, honeybees, paper wasps, hornets and fire ants. Yellow jackets are black with yellow markings, and are found in various climates. Their nests, which are made of a paper-Mache material, are usually located underground, but can sometimes be found in the walls of frame buildings, cracks in masonry or woodpiles.

Honeybees have a rounded, “fuzzy” body with dark brown coloring and yellow markings. Upon stinging, the honeybee usually leaves its barbed stinger in its victim; the bee dies as a result. Honeybees are non-aggressive and will only sting when provoked. However, Africanized honeybees, or so-called “killer bees” found in the southwestern United States and South and Central America, are more aggressive and may sting in swarms. Domesticated honeybees live in man-made hives, while wild honeybees live in colonies or “honeycombs” in hollow trees or cavities of buildings. Africanized honeybees may nest in holes in building frames, between fence posts, in old tires or holes in the ground, or other partially protected sites. Paper wasps' slender, elongated bodies are black, brown, or red with yellow markings. Their nests are also made of a paper-like material that forms a circular comb of cells which opens downward. The nests are often located under eaves, behind shutters, or in shrubs or woodpiles.

Hornets are black or brown with white, orange or yellow markings and are usually larger than yellow jackets. Their nests are gray or brown, football-shaped, and made of a paper material similar to that of yellow jackets' nests. Hornets' nests are usually found high above ground on branches of trees, in shrubbery, on gables or in tree hollows.

Fire ants are reddish brown to black stinging insects related to bees and wasps. They build nests of dirt in the ground that may be quite tall (18 inches) in the right kinds of soil. Fire ants may attack with little warning: after firmly grasping the victim's skin with its jaws, the fire ant arches its back as it inserts its rear stinger into the skin. It then pivots at the head and may inflict multiple stings in a circular pattern. Fire ant venom often causes an immediate burning sensation.

Preventing stings

Personnel should stay out of the “territory” of the stinging insects' nests as much as possible. These insects are most likely to sting if their homes are disturbed, so it is important to have hives and nests around work areas destroyed. Since this activity can be dangerous, a trained exterminator should be hired.

If any flying stinging insects are encountered, workers should remain calm and quiet, and move slowly away from them. Many stinging insects are foraging for food. It is important to not look or smell like a flower—avoid brightly colored clothing and perfume when outdoors. Because the smell of food attracts insects, be careful when eating, or drinking sweet drinks like soda or juice outdoors. Keep food and beverages covered until consumed. Workers should avoid loose-fitting garments that can trap insects between material and skin.

Treating stings

If stung by a honeybee that has left its stinger (and attached venom sac) in your skin, remove the stinger within 30 seconds to avoid receiving more venom. A quick scrape of a fingernail removes the stinger and sac. Squeezing the sac should be avoided—this forces more venom through the stinger and into the skin. Hornets, wasps, and yellow jackets do not usually leave their stingers. Try to remain calm, and brush these insects from the skin promptly with deliberate movements to prevent additional stings. Then, quietly and immediately leave the area.

If stung by fire ants, carefully brush them off to prevent repeated stings, and leave the area. Fire ant stings usually result in the development of a blister about 24 hours after the sting. The material in this will become cloudy and appear to be pustular. IT IS NOT! Fire ant venom kills bacteria, this is just dead tissue and should be left alone. It will dry and heal within the next 7 – 10 days. If the blister is opened it must be monitored for secondary bacterial infection. Diabetics and others with circulatory disorders, including varicose veins and phlebitis, can be particularly at risk for complications, and should see a physician to monitor their condition after being stung. Up to 50% of patients develop large local reactions at the site of fire ant stings—swelling may last for several days and may be accompanied by itching, redness and pain.

Use topical steroid ointments or oral antihistamines to relieve itching. See your doctor if swelling progresses or if the sting site seems infected.

Poisonous Plants

Poison ivy, poison oak or poison sumac may be present in the work area. Personnel should be alerted to the presence of these plants, and instructed on methods to prevent exposure.

The main control is to avoid contact with the plant, cover arms and hands, and use Ivy Block barrier cream on exposed skin. Particular attention must be given to avoiding skin contact with objects or protective clothing that have touched the plants. Treat every surface that may have touched the plant as contaminated, and practice contamination avoidance. If skin contact is made, the area should be washed immediately with Ivy Wipes or soap and water, and observed for signs of reddening.

Snakes

The possibility of encountering snakes exists, specifically for personnel working in heavily wooded/vegetated areas. Avoid walking in areas where snakes may nest or hide. When walking, always look ahead for signs of snakes. Employees should make as much noise as possible when approaching a possible snake area to give snakes time to leave. Use a long handled shovel, heavy equipment or other tools when moving or lifting objects that could be used by snakes as cover. Never reach under or behind objects or into other areas where snakes may hide. Look before placing your hands or feet anywhere, and do not put your hands or feet into places you cannot see. Avoid walking alone in snake-infested areas. Do not go out of your way to disturb or kill a snake. Avoid snakes – living and dead. Even dead snakes can bite reflexively.

If an employee is bitten by a snake the following actions are recommended: An attempt should be made to identify the snake. Do not try and capture or kill the snake.

The victim should be transported to the nearest hospital within 30 minutes. First aid consists of washing the area around the wound to remove any unabsorbed venom. Keep the victim calm and limit the victim's physical activity. While limiting movement of the bitten body part, keep the bitten area at the level of the heart.

Remove all constricting clothing or jewelry from the bite site because swelling may occur. Remove shoes if bitten on the leg.

- Do not apply a tourniquet.
- Clean the wound if possible.
- Do not pack wound in ice or apply heat.
- Do not give the victim a sedative or alcohol.
- Do not waste time capturing or killing the snake.
- Do not cut into the bite area; you might damage important nerves, tissues or muscles

8.0 SITE CONTROL

An exclusion zone, contaminant reduction zone and a support zone will be established whenever project activities require Level C or Level B personal protective equipment. Defined access and egress points will be established and personnel will enter only through those points.

As permitted by site topography, the area within a 50 foot radius of a drill rig, prove unit or excavation equipment be considered the site exclusion zone. Only those personnel designated by the Project Manager/SSO are allowed to enter the Exclusion Zone. Where practical, or where their use will prevent public injury, temporary signs or barricade fencing will be established to

define the Exclusion Zone. No smoking is permitted within 100 feet of any soil boring or probe location on petroleum contaminated project sites.

If unauthorized personnel attempt to enter the exclusion zone, the SSO will verbally inform the individual(s) to leave the project site. If unauthorized individuals refuse to leave the exclusion zone or are considered in danger or pose danger to project personnel, the SSO will cease project activities (i.e., shut down drill rigs, excavation equipment, etc.) and notify the client representative or the local police of the situation. Site activities will not resume until unauthorized personnel have left the project site.

9.0 AIR MONITORING AND SITE ACTION LEVELS

This air monitoring protocol is designed to prevent personnel exposure to airborne contaminants in excess of established permissible exposure limits. The results of field air monitoring will be used to determine the adequacy of initial personal protective equipment selection. Air monitoring equipment required for petroleum contaminated sites will include the following:

- **Photoionization Detector**

Task Leader(s) will be knowledgeable in the operation of the photoionization detector. A manual on the operation of the PID and the appropriate calibration kit will be mobilized to the project site with the instrument. Photoionization detectors will be calibrated under field conditions *each day* prior to use. Task Leaders are instructed to consult the manufacturer's specifications for appropriate calibration gas and calibration techniques.

A photoionization detector (PID) will be used to determine approximate hydrocarbon vapor concentrations in the BREATHING ZONE of site personnel. Continuous breathing zone air monitoring will be conducted during initial phases of intrusive activities (i.e., boring, excavation). If PID readings are less than 10 ppm, monitoring may be conducted at intervals of 10 minutes. If initial PID readings exceed 10 ppm, or if hydrocarbon odors become evident upon during auger advancement, continuous breathing zone air monitoring will be conducted..

If sustained PID readings in the breathing zone exceed 25 ppm, personnel will upgrade to respiratory protection as outlined below. Personnel will remain in air purifying respirators until the photoionization detector readings in the breathing zone have fallen and stabilized below 25 ppm.

9.1 Site Action Levels

Level D/D Modified	**Level C**	**Site Evacuation**
< 25 ppm	> 25 ppm	> 300 ppm

The Action Levels indicated above are for air in the breathing zone and NOT applicable to vapor above containerized soil samples. The Action Levels are established to prevent exposure to airborne petroleum hydrocarbon vapors in excess of established exposure limits. Although the Action Levels indicated for Site Evacuation are within the protective capacity of the respirator cartridges specified below, personnel will evacuate to the UPWIND side of the site if the continuous breathing zone vapor concentrations exceed these limits. The SSO will contact the Corporate Safety and Health Manager for discussion and re-evaluation of personal protective equipment and air monitoring requirements if airborne contamination exceeds Site Evacuation Action Levels. In the event that site evacuation is required, a modification of this safety and health plan will be issued with contingencies for combustible gas monitoring and upgrading to Level B personal protective equipment.

10.0 PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

The air monitoring regimen identified above will allow initial project activity to begin in LEVEL D personal protective equipment to include:

- **Hard Hat**
- **Safety Footwear (ASTM spec; Impermeable or with outer impermeable covers)**
- **Nitrile or Neoprene Rubber Outer Gloves**
- **Nitrile Glove Liners**
- **Safety Eye Wear (ANSI Z-87 specification)**
- **Hearing Protection (if within 10 feet of drill rigs, concrete coring or other equipment which impairs normal conversation at < 5 feet.)**

If petroleum saturated soils and potential splashing conditions develop during the course of the assessment, personnel will upgrade to LEVEL D MODIFIED personal protective equipment. Level D Modified personal protective equipment ensemble consists of the above, plus:

- **Laminated Tyvek Coveralls**
- **Tape Sleeves/Legs to Gloves and Boots**

If air monitoring exceeds Action Level specified for upgrade to LEVEL C personal protective equipment, personnel will don:

- **Full Face Air Purifying Respirator**
- **Equipped with Combination Organic Vapor/Acid Gas/HEPA Cartridges**

Respirator cartridges will be changed daily prior to start of site activity.

11.0 DECONTAMINATION

Equipment decontamination is required on all sites with petroleum hydrocarbon impact. Personnel decontamination for projects below personal protective Level C will consist of washing off safety footwear, proper cleaning or disposal of outer and inner gloves and thorough washing of face, arms and hands. For projects involving Level C personal protective equipment, a decontamination station will be established and the following procedures enforced.

11.1 Personal Decontamination

Personnel will establish a decontamination station on the interface of the Exclusion Zone. A Contaminant Reduction Zone will be established and will extend 10 feet beyond from the decontamination station.

- Two Wash Tubs
- Scrub Brush
- Plastic Bags
- Water and Alconox Detergent

The wash tub on the exclusion zone side of the site will contain a solution of water and Alconox detergent; the second wash tub will contain clean rinse water. Personnel decontamination will consist primarily of detergent washing and rinsing of reusable exterior protective gear. Coveralls will be removed by turning the clothing inside out.

Personnel may not leave the contaminant reduction zone without proceeding through the decontamination sequence described below. The general decontamination sequence should be as follows:

- Wash work gloves, boots and polylaminated protective coveralls,
- Rinse work gloves, boots and coveralls,
- Remove tape at wrists and ankles,
- Remove protective coveralls,
- Remove respirator
- Dispose of spent cartridges; wash and rinse respirator
- Remove outer gloves
- Remove inner gloves

Expendable personal protective equipment will be placed in plastic trash bags, sealed and disposed of per client agreement. Decontamination solutions will be containerized or disposed of as arranged by Project Manager.

11.2 Equipment Decontamination

Decontamination of equipment will be performed to limit the migration of contaminants off-site. All equipment will be cleaned prior to site entry to remove grease, oil and encrusted soil.

Decontamination of large equipment will consist of physically removing gross contamination with shovels, brushes etc. followed by detergent and water high pressure wash with a clean water rinse. The Project Manager is responsible for determining if decontamination solutions must be containerized. If so, a decontamination sump or polyethylene sheeting and fluid containers will be mobilized and established in the decontamination area. Decontamination of hand samplers and similar small equipment will be performed at a designated location within the Contaminant Reduction Zone. Decontamination of such equipment will consist of detergent solution wash and clean water rinse.

11.3 Power Washer/Decontamination Safety

The operator should wear safety glasses or a face shield at all times during use of the power washer. Caution should be used while operating the washer to ensure that all Site personnel are out of the area.

12.0 SITE COMMUNICATIONS

Communication between personnel within the Exclusion Zone will be via verbal communication or hand signals. Visual contact between members of task teams should be possible throughout the course of project activities. Contact with the SSO will be through direct verbal communication. The following hand signals will be used by personnel wherever respiratory protection and/or equipment noise limit verbal communication.

Signal	Meaning
Thumbs Up	OK; all is well
Grab throat with both hands	Can't breathe
Shake head, thumbs down	NO, negative
Point right (when facing equipment operator)	Move/steer left
Point left (when facing equipment operator)	Move/steer right
Grab partner's wrist	Leave area immediately

13.0 EMERGENCY RESPONSE PROCEDURES

The Project Manager is responsible for obtaining and recording the following emergency information prior to site mobilization:

Location of Nearest Telephone: Allen McColl's Cell Phone (in pants pocket) / Mill # 1 Office landline (approximately 100 feet from work zone)

Nearest Hospital/Clinic: Wayne Memorial Hospital Phone: 919-736-1110

Estimated Drive Time: 10 minutes

Directions From Site: (Attach a Site Diagram as an Appendix to this Plan) See attached map.

Ambulance:	**911**
WorkCare (Managed Care Provider)	888-449-7787
Fire Department:	**911**
Police:	**911**
Poison Control Center:	**800-222-1222**
Project Manager:	**Allen McColl - 910-474-6081**
Safety and Health Manager:	**Gary Ganson – 913-599-6886**
Client Contact:	**John Pike – 919-778-3130**

13.1 Personal Injury

The SSO and at least one other individual on site will be appropriately trained to administer first aid and CPR. A certificate issued by the American Red Cross, National Safety Council or equivalent will be considered appropriate.

In the event of non-life threatening injuries such as minor cuts, burns, exhaustion, heat cramps, insect stings, etc., the affected employee will be removed to a safe location and appropriate first aid measures should be rendered. It is the responsibility of every employee to report all unsafe acts and incidents (equipment or facility damages as well as injury accidents) to their direct

supervisor as soon as possible. Personnel who incur injuries not requiring immediate medical attention are instructed to call WorkCare at 888-449-7787. The affected supervisor will complete an Accident/Injury Investigation form within 48 hours of the incident, and forward it to their home office or enter it directly into Terracon's Automated Claims Management System. Details will be shared with the client and/or contractor as may be required by contractual agreement. A root cause analysis will be prepared by the affected Office Manager. All reports must include written recommendations of actions the office will take to prevent a recurrence of the incident.

For more serious injuries the Site Safety Officer or designee will summon an ambulance to the project site. No attempt will be made by Terracon personnel to move the victim, without the aid and/or instructions of qualified medical personnel.

Where air monitoring indicates the absence of toxic gases or vapors, the ambulance will be directed to the affected employee. If site conditions warrant and as time permits, the wheels of the ambulance will be decontaminated with high pressure wash. The SSO or designee will accompany the ambulance to the medical facility, and provide guidance concerning additional decontamination which may be required for the injured employee, ambulance or attendants.

Whenever an injury occurs on sites with contamination requiring personal protective equipment greater than Level D modified, a minimum of two employees will don appropriate equipment and proceed to the victim. An ambulance will be called immediately. If the extent of injuries permit, the injured employee will be removed to fresh air. Appropriate first aid will be administered.

If rescuer(s) assess that the victim cannot be removed without a stretcher or other specialized equipment, the victim will be removed at the earliest possible moment by appropriately attired Terracon personnel with the direction and/or assistance of qualified medical response personnel. The injured employee will be immediately decontaminated and transported to the nearest medical facility. A crew member designated by the SSO will inform the ambulance crew of contaminants of concern and provide assistance with additional decontamination if required.

13.2 Evacuation and Shutdown Procedures

The SSO will establish and notify site personnel of emergency "rally" points. In the event of a site emergency, personnel will immediately exit the site and assemble at the designated rally point. Evacuation routes will be dependent on site topography and wind conditions. The routes will be selected and presented by the SSO daily prior to site activity.

If emergency evacuation becomes necessary, the SSO will sound the emergency alarm (e.g. support vehicle horn or compressed air horn). Personnel will safely shutdown all electrical and mechanical equipment and quickly proceed to closest designated rally point. The SSO will then account for each crew member on site.

In the event that a Terracon employee does not report to the designated rally point within 5 minutes of the evacuation alarm, the SSO will perform an immediate assessment of site conditions. If site conditions do not pose an immediate hazard to life or health, the SSO will initiate search and rescue efforts utilizing two crew members attired in appropriate personal protective equipment.

14.0 THERMAL STRESS

14.1 Heat Stress

Whenever ambient temperature exceeds 70 degrees F and personal protective equipment requirements are Level D or Level D modified, the following heat stress monitoring and preventive measures will be implemented:

- Mobilize at least one gallon of water for each field employee during each day of site activity.
- Periodically observe personnel for signs of heat stress (excessive perspiration, flushed skin, nausea, etc.).
- Move affected workers out of contaminant zones,
- Loosen protective clothing and permit them to rest
- Have conscious, affected personnel drink at least one 8 oz. glass of cool water.
- Check pulse; personnel should not return to work until pulse rate is less than 90 beats/min.

14.2 Heat Stress in Level C/Level B PPE

In addition to the above precautions, the following procedures will be implemented whenever the ambient temperature exceeds 70^{o} F and personal protective equipment requirements are Level C or above. Ambient temperature will be measured with a dry bulb thermometer and percent cloud cover will be estimated:

1.0 = No Clouds
0.75 = 25% Clouds
0.5 = 50% Clouds
0.25 = 75% Clouds
0.0 = 100% Clouds).

Calculate the adjusted temperature using the following formula:

ADJUSTED TEMPERATURE = 13(% CLOUD COVER) + DRY TEMPERATURE

Rest regimens will be implemented at frequencies dependent upon adjusted temperature. Monitor pulse during each rest period.

Adjusted Temperature	Rest Period/Monitoring Frequency
90+	After 15 minutes
87.5-90	After 30 minutes
82.5-87.4	After 60 minutes
77.5-82.5	After 90 minutes
70.5-77.4	After 120 minutes

Employees will return to work only after their pulse rate is below 90. Fluid replacement will be encouraged during each rest period. The use of stimulants and alcoholic beverages in off hours should be discouraged to prevent heat related illnesses.

14.3 Cold Stress

Persons working outdoors in low temperatures are subject to cold stress, especially if the temperature is at or below freezing. Exposure to cold for a short period of time can cause severe injury to the surface of the body (frostbite), or result in profound general cooling, potentially resulting in clinical hypothermia and death. Areas of the body with high surface to volume area, such as fingers, toes, and ears are the most susceptible. In general, the body's response to cold stress progresses from frostbite to hypothermia. Recognition of the symptoms of cold stress is essential to worker protection when operating in low temperatures.

Utilize cold weather clothing available from Terracon's personal protective equipment vendor, including thermal hardhat liners, gloves, and footwear traction devices to prevent slips and falls on slick and icy walking surfaces.

15.0 TRAFFIC CONTROL

Worksites confront motorists with a situation they do not expect, cannot anticipate and find confusing. They also tend to create hazards with which the driver can collide. Worksites distract motorist's attention from the driving tasks and expose workers to oncoming traffic.

Some inadequate traffic control measures that have led to worksite traffic accidents include:

- Inadequate advance warning
- Inadequate and inappropriate signs and messages
- Confusing messages
- Inadequate guidance through the work zone
- Conflicting pavement markings

- Unprotected hazard such as shoulder drop offs

Whenever project sites under Terracon control will disrupt vehicle traffic or expose Terracon personnel to the hazards of vehicle traffic, (i.e., work on an active roadway, including shoulders) adequate traffic control measures must be implemented.

Terracon's preferred method for implementing traffic control is to request that clients assume this responsibility. Where clients refuse to assume responsibility, Terracon will attempt to sub-contract the service to a reputable traffic control firm. Terracon personnel with no training or experience in traffic flagging or the placement of traffic control devices such as signs, barricades or flashers are prohibited from engaging in traffic control operations unless directed by a trained and experienced individual.

Project-Specific Traffic Control Requirements

The Project Manager will be primarily responsible for assuring that traffic control measures utilized on the various compressor station project sites (where applicable) are in accordance with Department of Transportation requirements. All Terracon personnel working within 10 feet of an active roadway will wear ANSI Class III traffic safety vests as the outermost garment. All Terracon field personnel will participate in site traffic control briefings with affected field representatives where requested.

16.0 MOTOR VEHICLE SAFETY

Vehicles must be periodically inspected in accordance with Terracon motor vehicle operations policies. Any vehicle found to be unsafe shall not be operated and shall be removed from service until it can be repaired or serviced and rendered safe. Driving at the maximum posted speed limit can be too fast for safety in some situations.
Drivers shall use good judgment and proceed at a speed suitable for the conditions of the vehicle, road, traffic, and weather. Vehicles are not to be moved until all passengers are properly seated inside the vehicle. All operators and passengers must use seat belts and shoulder harnesses, if the vehicle is so equipped.

Before driving, all windows should be cleared of any materials such as frost, mud, or dew that may reduce visibility. Drivers should not engage in distracting activities while a vehicle is in motion. The vehicle should be pulled over to the side of the road and stopped when performing activities such as dialing or using a mobile telephone or taking notes. If the phone rings while driving, let the cellular voice mail service take the call and listen to the message later when you are parked.

Vehicles should be properly parked. When possible, they should be parked so that no backing is required when leaving, unless doing so creates a greater hazard. Where backing is required when leaving a location, the driver shall walk around the vehicle prior to backing and inspect the area for any potential obstructions, or use a spotter. Hazard lights shall be utilized when parking

on a road shoulder. Bridge load limits should be reviewed and a preapproved route established prior to transporting heavy equipment over county road bridges.

Items carried inside the vehicle should be secured to prevent them from being thrown about in event of emergency braking or sharp maneuvers. Items that cannot be secured must be carried in an enclosed trunk or luggage compartment that is physically separated from the passenger area.

All large tools should be carried outside the cab of the vehicle and be properly secured. All fittings, tools, supplies, equipment, and other cargo carried on cargo beds or in the back of trucks must be properly secured and restrained.

17.0 WORK AROUND OPEN WATER

Work around open water and boats presents an unstable surface that may lead to falls and potential for drowning or injury. The following safety precautions are required. The “buddy system” shall be used during all sampling tasks. Within 6 feet of unguarded water more than 3 feet deep, workers will don USCG Type III, V, or better personal floatation device (PFD) with retro reflective tape worn by all personnel aboard boat at all times. The maximum capacity (weight and passenger number) of the boat shall not be exceeded at any time (this number is listed on the boat tag). Workers should be cautious when boarding and keep weight toward center of boat Personnel will not stand in the boat when underway. All equipment must be secured to the boat or securely stowed during transit. Appropriate footwear should be worn when it is necessary to access the shoreline by wading, and nonskid footwear must be worn on board. Employees should dress appropriately for the weather (sunscreen must be worn when sunburn is a threat). The boat must always proceed at a safe speed, under control, and ready to stop within a safe distance. A ring buoy with at least 90 feet of line shall be provided and readily available for emergency rescue operations. In open water areas, at least one life saving skiff shall be immediately available.

Hip waders shall be worn when sampling in shallow waters without a boat to safe guard against stepping on a deep hole or getting stuck in the mud. A PFD should be worn with the waders if you cannot always see to bottom. Use the “buddy system” but keep some distance apart when walking from point A to point B to reduce the risk of both people at the same time stepping in a deep hole. A ring buoy with at least 90 feet of line shall be provided and readily available for emergency rescue operations. If working in a small area close to shore, secure the worker with safety line and harness with the line tended by a second person on shore.

ACKNOWLEDGMENT OF INSTRUCTION

I understand this project involves the investigation of a project site with potential petroleum hydrocarbon contamination. I have read this Safety and Health Plan and have received instructions for safe work practices, personal protective equipment and air monitoring requirements. I further understand that if I encounter unanticipated contamination or site conditions I am to leave the site and immediately notify the Project Manager and Corporate Safety and Health Manager of the conditions observed.

PROJECT NAME: Goldsboro Milling – Mill # 1

TERRACON JOB #: 72137029

Name (Please Print)	**Signature**	**Date**

PERSONAL PROTECTIVE EQUIPMENT UTILIZED:

_____ **LEVEL D** _____ **LEVEL D MOD.** ____ **LEVEL C**

Safety briefing performed by: _____ Date:_____

PETROLEUM CONTAMINANT(S):_____ _____ _____

AIR MONITORING RESULTS (Attach separate page if required.)

bing Maps

A **938 Millers Chapel Rd, Goldsboro, NC 27534**

B **2700 Wayne Memorial Dr, Goldsboro, NC 27534**

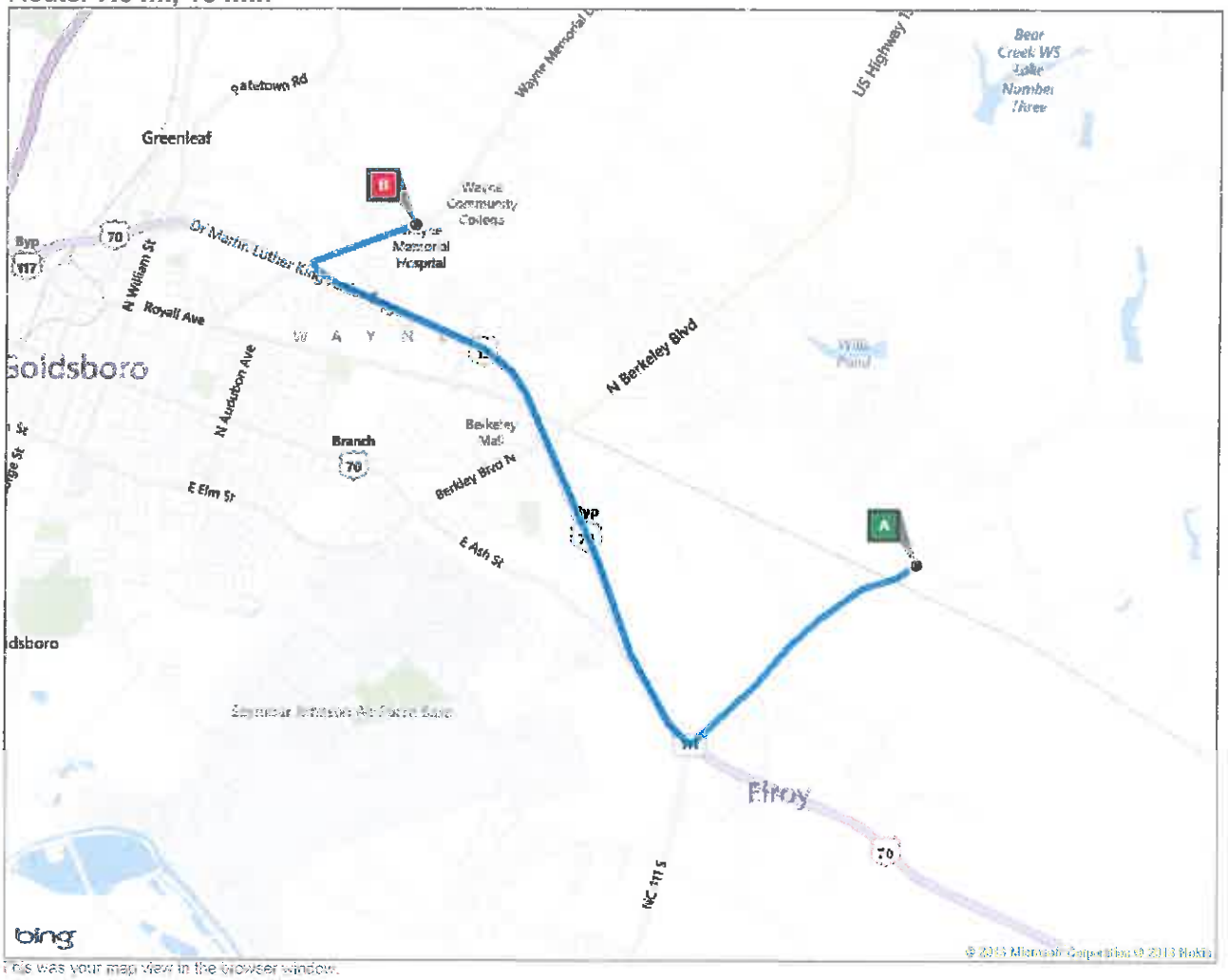
Route: **7.6 mi, 13 min**

My Notes

On the go? Use **m.bing.com** to find maps, directions, businesses, and more

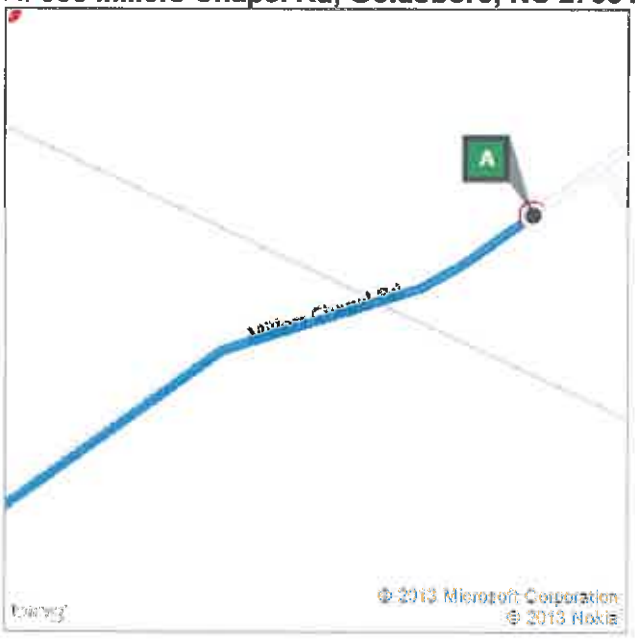
A	**938 Millers Chapel Rd, Goldsboro, NC 27534**	**A–B: 7.6 mi** 13 min
	1. Depart **Millers Chapel Rd** toward Thoroughfare Rd	2.1 mi
	2. Turn **right** onto **US-70 W / NC-111 N / Dr Martin Luther King Junior Expy**	0.8 mi
	3. Keep **straight** onto **US-70 W / US-70 W Byp / NC-111 N / Dr Martin Luther King Junior Expy**	1.5 mi
	4. Keep **straight** onto **US-13 S / US-70 W / US-70 W Byp / NC-111 N / Dr Martin Luther King Junior Expy**	2.1 mi
	5. Take ramp **right** for **Wayne Mem Drive** toward **Wayne Comm College / Goldsboro High School**	0.3 mi
	6. Turn **right** onto **Wayne Memorial Dr** *Hardee's on the corner*	0.8 mi
B	7. Arrive at **2700 Wayne Memorial Dr, Goldsboro, NC 27534** *The last intersection is Medical Office Pl* *If you reach Hospital Rd, you've gone too far*	

Route: **7.6 mi, 13 min**



This was your map view in the browser window.

A: **938 Millers Chapel Rd, Goldsboro, NC 27534**



B: **2700 Wayne Memorial Dr, Goldsboro, NC 2...**

Appendix C

Work Plan Certifications

REC PROGRAM DOCUMENT CERTIFICATION FORM - PAGE 1 OF 2
IHSB SITE NAME Goldsboro Milling Company, Mill #1 Property
DATE & NAME OF DOCUMENT Work Plan for Remedial Investigation, Sept. 24, 2013
TYPE OF SUBMITTAL (circle all that apply): Report, (Work plan,) Work Phase Comp. Statement, Schedule Change

REMEDIATING PARTY DOCUMENT CERTIFICATION STATEMENT (.0306(B)(2))

"I certify under penalty of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material and information contained herein is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for willfully submitting false, inaccurate or incomplete information."

Goldsboro Milling Company
Name of Remediating Party

John Pike for Goldsboro Milling Company
Signature of Remediating Party

11/5/13
Date

NOTARIZATION

NC (Enter State)

Wayne **COUNTY**

I, Donna T. Parker, a Notary Public of said County and State, do hereby certify that John Pike did personally appear and sign before me this day, produced proper identification in the form of NCDL, was duly sworn or affirmed, and declared that, to the best of his or her knowledge and belief, after thorough investigation, the information contained in the above certification is true and accurate, and he or she then signed this Certification in my presence.

WITNESS my hand and official seal this 5th day of Nov, 2013.

Donna T. Parker
Notary Public (signature)
Donna T. Parker

My commission expires: 2-5-14.

(OFFICIAL SEAL)

DONNA T. PARKER NOTARY PUBLIC WAYNE COUNTY, NC

Document Certification Form No. DC - 1
(Revised 8/11)

REC PROGRAM DOCUMENT CERTIFICATION FORM - PAGE 2 OF 2
IHSB SITE NAME Goldsboro Milling Company, Mill #1 Property
DATE & NAME OF DOCUMENT Work Plan for Remedial Investigation, Sept. 24, 2013
TYPE OF SUBMITTAL (circle all that apply): Report, (Work plan.) Work Phase Comp. Statement, Schedule Change

REGISTERED SITE MANAGER CERTIFICATION OF SIGNATURES

As the Registered Environmental Consultant for the Site for which this filing is made, I certify that the signatures included herewith are genuine and authentic original handwritten signatures and/or true, accurate, and complete copies of the genuine and authentic original handwritten signatures of the persons who purport to sign for this filing. I further certify that I have collected through reliable means the originals and/or copies of said signatures from the persons authorized to sign for this filing who, in fact, signed the originals thereof. Those persons and I understand and agree that any copies of signatures have the same legally binding effect as original handwritten signatures, and I certify that any person for whom I am submitting a copy of their signature has provided me with their express consent to submit said copy. Additionally, I certify that I am authorized to attest to the genuineness and authenticity of the signatures, both originals and any copies, being submitted herewith and that by signing below, I do in fact attest to the genuineness and authenticity of all the signatures, both originals and copies, being submitted for this filing.

Christopher L. Corbitt, PG
Name of Registered Site Manager

Signature of Registered Site Manager — Date: 11/5/2013

REGISTERED SITE MANAGER DOCUMENT CERTIFICATION STATEMENT (.0306(b)(1))

"I certify under penalty of law that I am personally familiar with the information contained in this submittal, including any and all supporting documents accompanying this certification, and that the material and information contained herein is, to the best of my knowledge and belief, true, accurate and complete and complies with the Inactive Hazardous Sites Response Act N.C.G.S. 130A-310, et seq, and the remedial action program Rules 15A NCAC 13C .0300. I am aware that there are significant penalties for willfully submitting false, inaccurate or incomplete information."

Christopher L. Corbitt, PG
Name of Registered Site Manager

Signature of Registered Site Manager — Date: 11/5/2013

NOTARIZATION

North Carolina (Enter State)

Mecklenburg COUNTY

I, Clara A. Gary, a Notary Public of said County and State, do hereby certify that Christopher L. Corbitt did personally appear and sign before me this day, produced proper identification in the form of driver's license, was duly sworn or affirmed, and declared that, he or she is the duly authorized environmental consultant of the remediating party of the property referenced above and that, to the best of his or her knowledge and belief, after thorough investigation, the information contained in the above certifications is true and accurate, and he or she then signed these Certifications in my presence.

WITNESS my hand and official seal this 5th day of November, 2013.

Notary Public (signature)

CLARA A. GARY (OFFICIAL SEAL)
NOTARY PUBLIC
MECKLENBURG COUNTY, N.C.

My commission expires: 3/23/2018

Document Certification Form No. DC - II
(Revised 8/11)